

Sefar Automotive

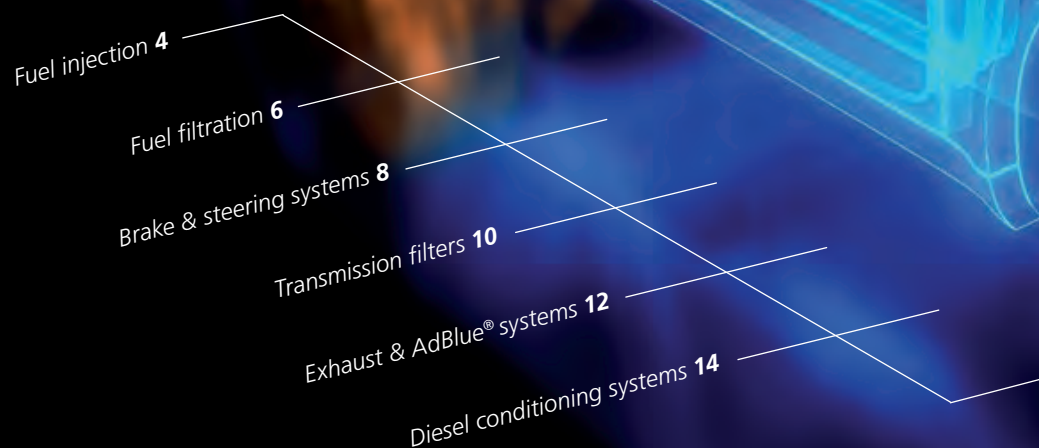
Open Mesh & Depth Media Solutions



www.marianinc.com
1-800-773-0062

Filter Components

S E F A R
■ ■ ■ ■

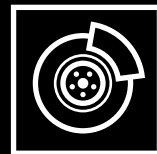
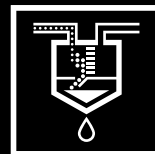
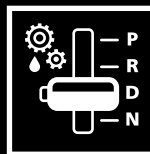
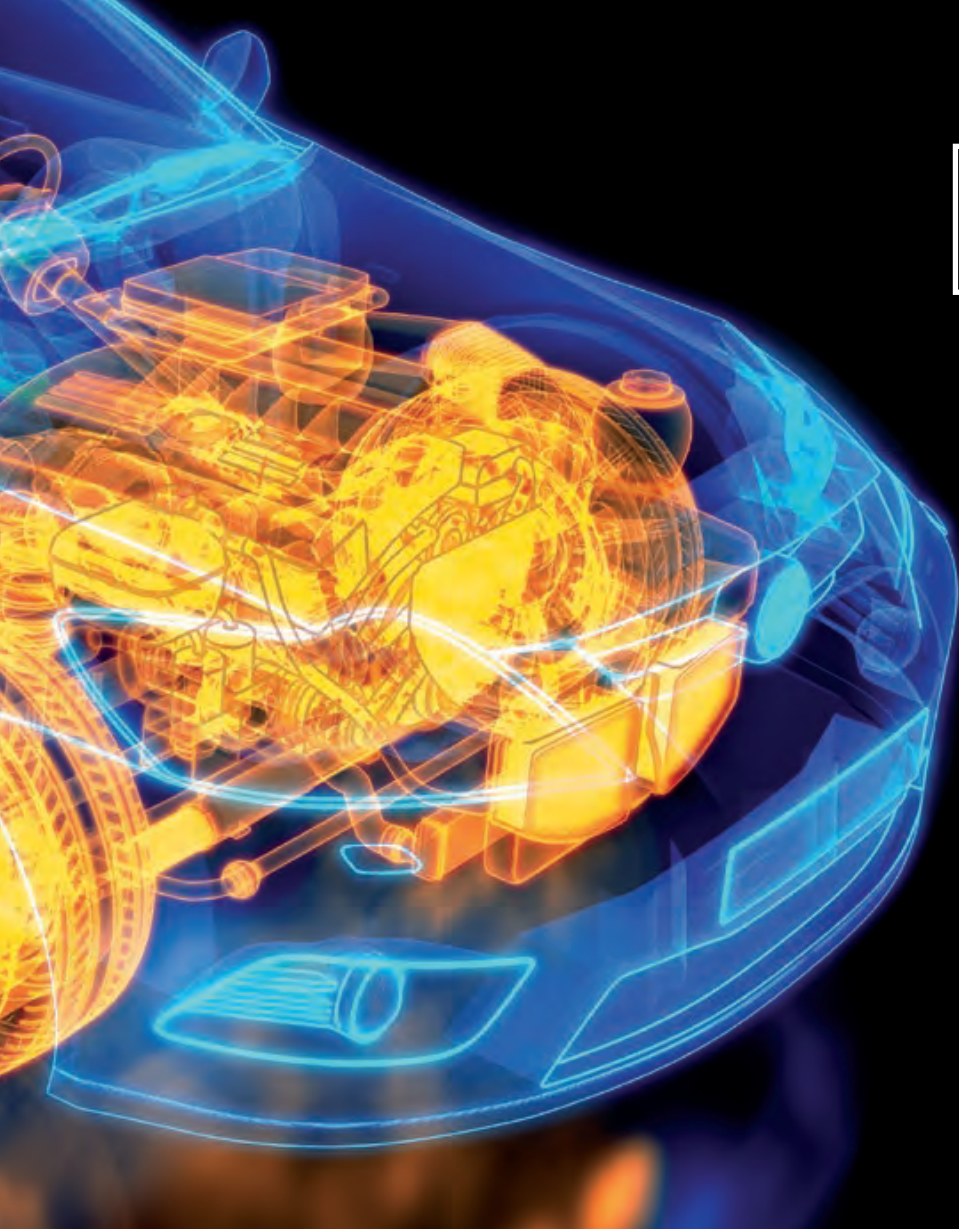


Sefar Filtration Solutions for the Automotive Industry

Sefar offers more. In today's demanding automotive systems, it is critical to have long lasting, innovative filters; Sefar's non-corroding filters ensure excellent filtering efficiency for the desired product lifetime.

In extreme environments, Sefar's line of specialty fabrics are ideal where high temperature, chemical resistance and material fatigue are common.

Sefar's synthetic fabrics exhibit precise mesh openings and strictly controlled fabric properties that guarantee reliable and consistent filter performance.



Content

Focus on your application	3
Filter media solutions	4–15
Laboratory	16
Technical consulting	17
Fabrication capabilities	18

We Focus on your Application

Sefar understands the competitive environment of the automotive industry. Therefore, we offer a wide range of testing and development possibilities to take care of our customers' first to market goals.

Your Development Partner Sefar Quality Control

Sefar's filtration solutions provide injection molders and filter element manufacturers significant advantages:

- Certified IATF 16949
- Application knowledge to assist customers in finding the right filtration solutions
- In-house industry standard test equipment
- Worldwide fabrication facilities

Fully traceable and strictly controlled ensures lot to lot accuracy:

- Sefar quality control is process-oriented throughout the entire manufacturing process
- The product specific characteristics, such as mesh size, mesh count, open area, thickness and air permeability are monitored using modern optical or pressure-sensitive equipment

- Unmatched quality standards give our customers the confidence to specify Sefar fabrics for the most demanding automotive applications

Open Mesh Solutions

Fuel Injection

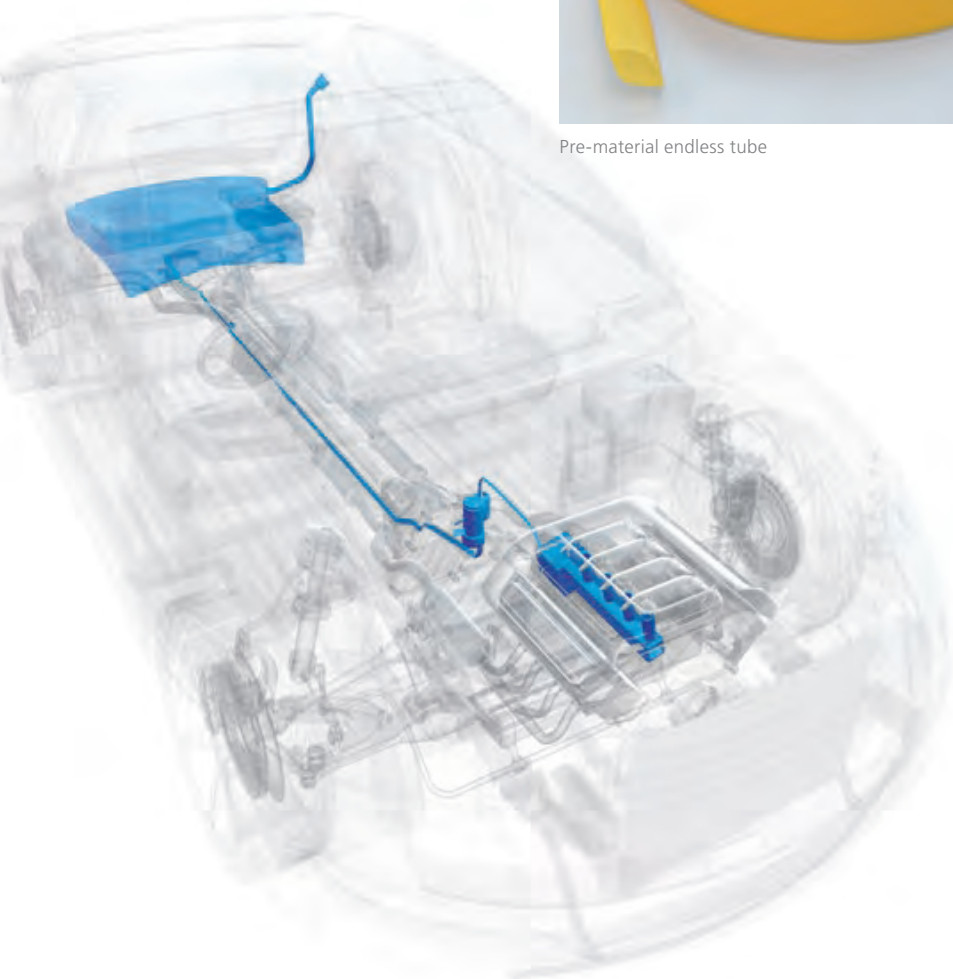
Injection fuel filters rely on precise and reliable screening performance down to a few microns. For excellent resistance to fuels and other automotive additives choose SEFAR NITEX® or SEFAR® PEEKTEX fabrics.



Pre-material endless tube



Semi-finished tube cuts





Typical filter for injectors

We offer

- Monofilament open mesh
- Available in PA 6.6, PET and PEEK
- Different fabrication solutions: tubes, tube cuts, ribbons

Main features and benefits

- PEEK fabric has a high chemical resistance against BIO fuels (Ethanol and Methanol)
- High open area
- Low pressure drop due to a high open area
- Smaller filtration areas due to higher throughput
- High temperature resistance

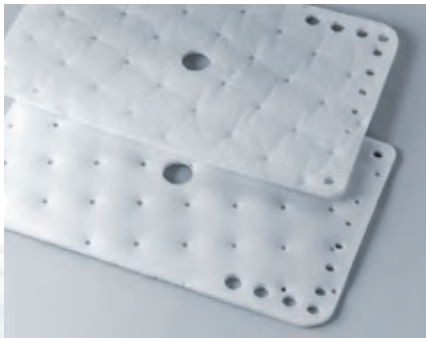
Recommended fabrics

Fuel injection

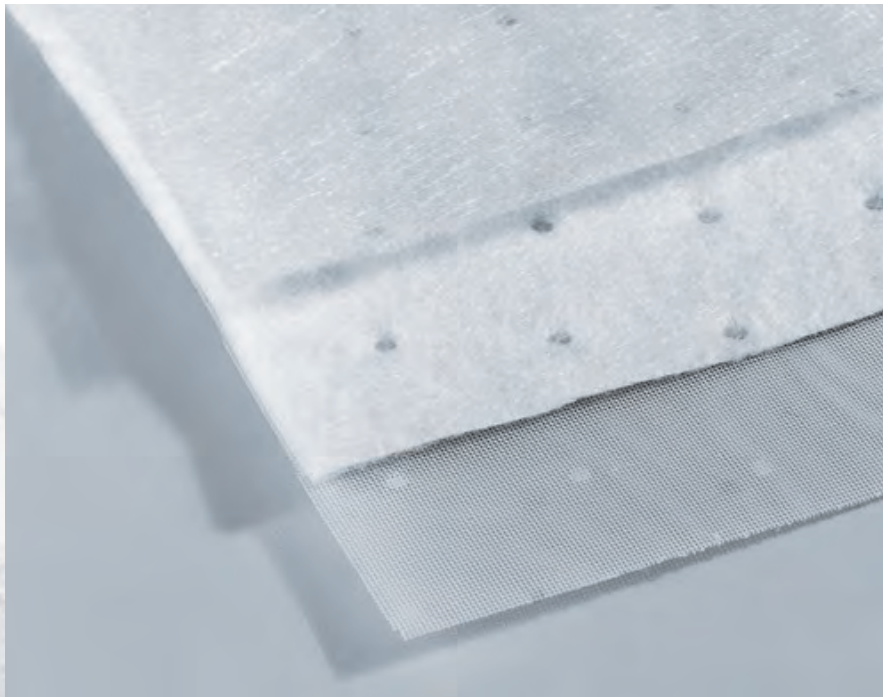
SEFAR® PEEKTEX 17-22/14
SEFAR® PEEKTEX 17-35/22
SEFAR NITEX ® 03-20/14
SEFAR NITEX ® 03-30/18
SEFAR NITEX ® 03-31/24

Fuel Filtration

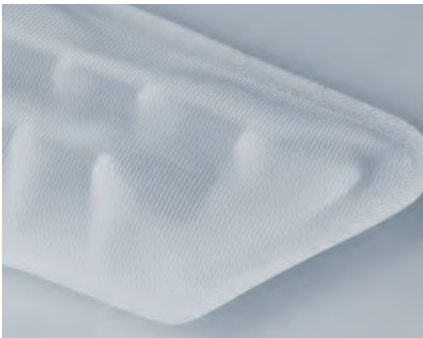
Today the main filter performance criteria are filter efficiency, capacity and pressure drop. In modern in-tank fuel filters the change from plain reverse Dutch weaves that are based on woven monofilaments, to depth filtration media has dramatically improved filtration performance. SEFAR's ACCUFLOW® depth media solutions provide protection against particle migration, with excellent debris holding capacity and low pressure drops.



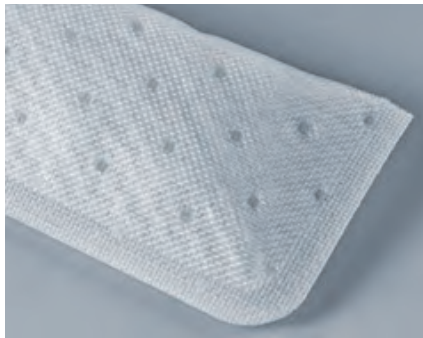
Bonded fabrics and depth filter media



Single layers of a bonded fabric



Typical fuel filter single layer



Fuel filter double layer



Fuel filter triple layer

We offer

- Different polymers
- Surface and/or depth filtration
- Pleated element
- Ultrasonically stamped elements
- Fabrication capabilities solutions

Main features and benefits

- High dirt holding capacity reduces filtration area
- Defined particle retention
- Low pressure drop
- Longer lifetime
- Multi-pass and single-pass in-house testing

Recommended fabrics

Fuel filtration

- SEFAR **ACCUFLOW**® 06-150-30
- SEFAR **ACCUFLOW**® High Capacity 07-470-30
- SEFAR **ACCUFLOW**® High Capacity 07-575-60
- SEFAR **ACCUFLOW**® Economic 06-240-30
- SEFAR **ACCUFLOW**® Economic 06-340-60
- SEFAR **ACCUFLOW**® Economic 07-240-30
- SEFAR **ACCUFLOW**® Economic 07-340-60
- SEFAR **TETEX MONO**® 06-33-W070

Diesel filtration

- SEFAR **NITEX**® 06-300/34
- SEFAR® **S-TEX** PA 200-180
- SEFAR® **S-TEX** PA 300-240

Open Mesh Solutions

Brake and Steering Systems

Open mesh filters are ideal for hydraulic braking systems, transmission and steering filters. SEFAR NITEX® fabrics offers excellent thermal stability and precise mesh openings for filtering system critical hydraulic fluids.



Ribbons as roll goods



Tubes, heat-slit and ultrasonically welded



Injection-molded customer products

We offer

- Ultrasonically welded tubes
- Heat-slit tubes
- Ribbons

Main features and benefits

- Wide range of monofilament fabrics
- Available in polyester, polyamide and PEEK
- Pore sizes from 40 µm to 200 µm
- Open areas up to 70 %
- Optimal chemical and thermal resistance for long lasting durability
- Low pressure drop resistance for longer durability
- High split resistance

Recommended fabrics

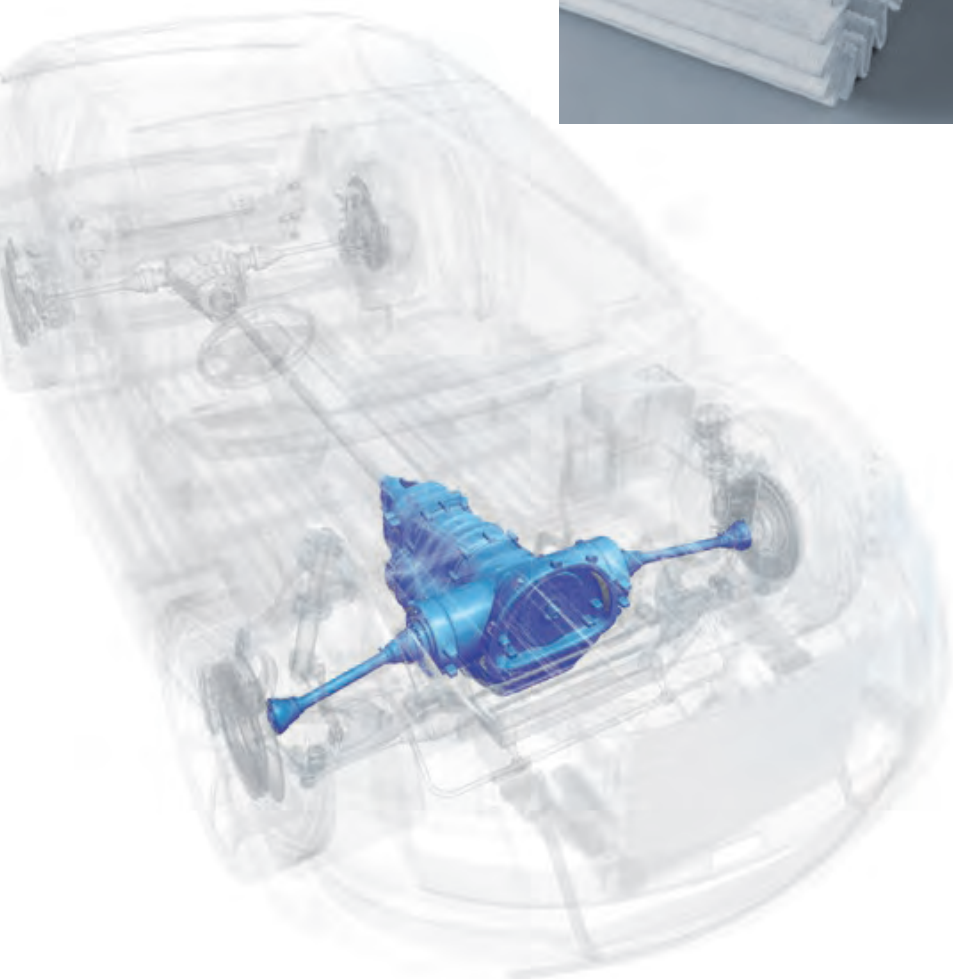
- Brake and steering systems**
- SEFAR **NITEX**® 03-48/22 yellow
 - SEFAR **NITEX**® 03-48/36 yellow

Transmission Filter

Sefar supplies highly efficient transmission filters. Our open mesh fabrics combined with custom specific depth media, provide the ultimate in filtration protection. Suction and pressure filters are manufactured and fabricated to your specifications and are available in a variety of sizes and shapes.



Pleated elements





Injection-molded pleated elements



We offer

- Filter solutions for suction and pressure side
- Combination of depth filtration media with surface fabric filter media
- Stamped elements, pleated elements, multilayer constructions

Main features and benefits

- High throughput over a wide range of oil viscosities
- Higher efficiency due to a small mesh opening
- Available in a variety of open mesh and depth media combinations

Recommended fabrics

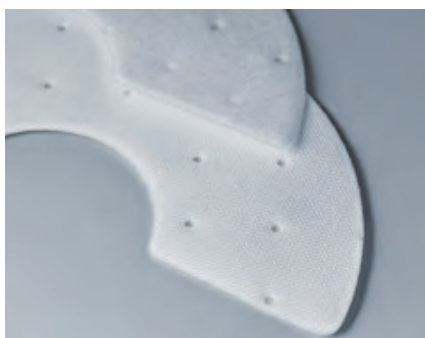
Transmission filter

SEFAR **PETEX**® 07-40/25

SEFAR **PETEX**® 07-120/34

Exhaust and AdBlue® System

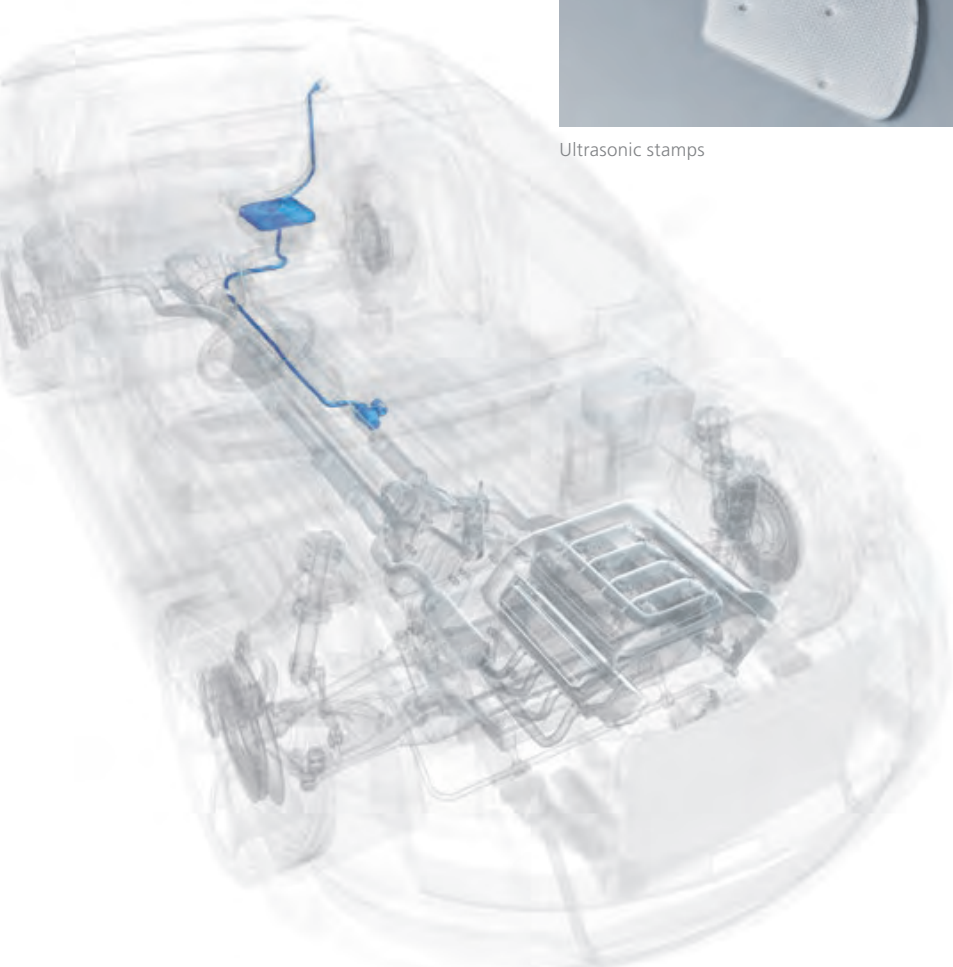
As a response to stricter emission standards to reduce NO_x emission, automotive manufacturers have decided to use SCR (Selective Catalytic Reduction) technology. The AdBlue® application involves a system whereby a urea solution is sprayed into the exhaust stream in the catalytic converter. The nitrogen oxides are converted into nitrogen (N_2) and water (H_2O). The Sefar solution is to filter the urea solution using a multilayer media. The filter protects the pump from particles larger than $15\text{ }\mu\text{m}$.



Ultrasonic stamps



Roll goods and pre-material





Examples of injection-molded AdBlue® filters

We offer

- Ultrasonically stamped elements
- Pleated elements
- Fabrication capabilities solutions

Main features and benefits

- AdBlue® resistant polyamide construction
- Multilayer mesh and non-woven fabric ultrasonically bonded
- Mesh supported filtration media
- Defined efficiency, 95 % at 15 µm particles
- High capacity

Recommended fabrics

Exhaust and AdBlue® system

SEFAR **ACCUFLOW®** 03-280-15

SEFAR **ACCUFLOW®** 03-600-20

Open Mesh and Depth Media Solutions

Diesel Conditioning Systems

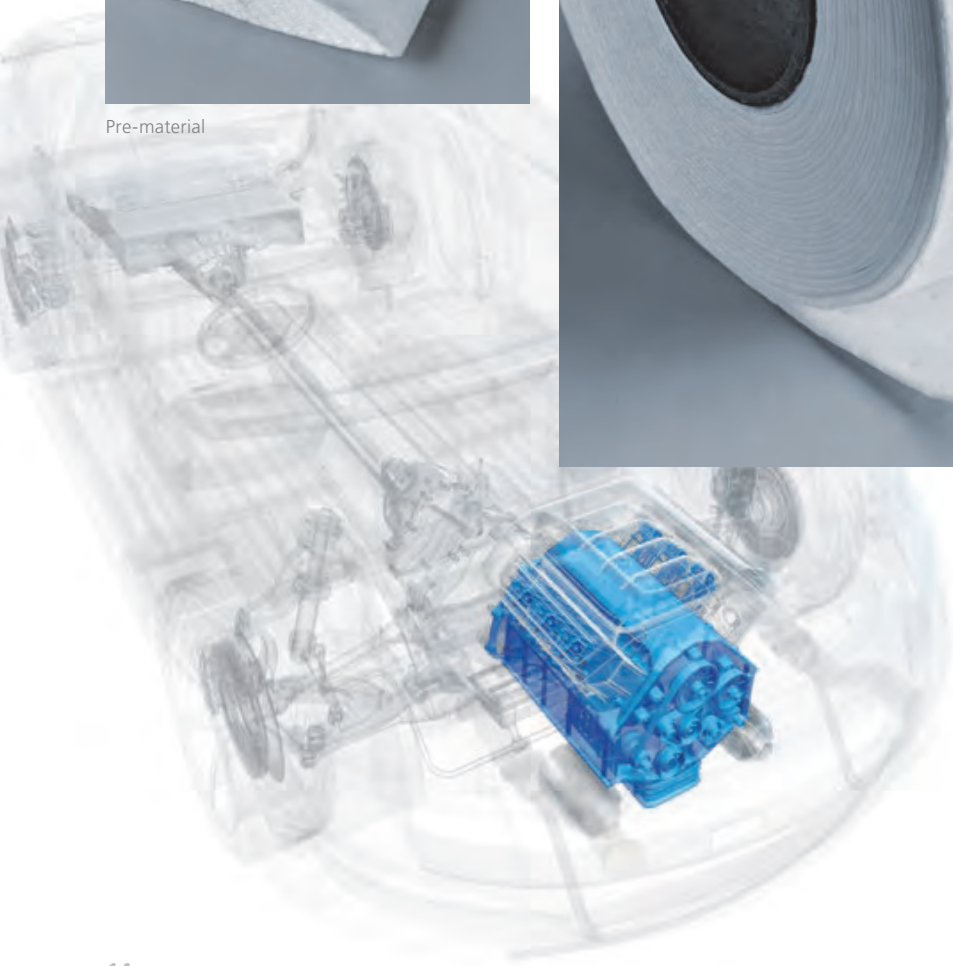
High-pressure injection systems of modern diesel engines place high demands on fuel purity. Particulate combined with drops of water can harm the components of the injection system. As a result, water must be separated from the fuel. Sefar has developed multi-layer media and specialty coated open mesh filters for diesel fuel systems.



Pre-material



Roll goods





Examples of injection-molded customer products

We offer

- Sefar monofil open mesh for water separation
- SEFAR® ACCUFLOW depth media for coalescing
- Special hydrophobic treatment
- In-house media testing (According to ISO 16332)

Different fabrication solutions:

- Ultrasonically-slit tubes
- Pleated elements
- Slit ribbons

Main features and benefits

- Specialty coated hydrophobic or hydrophilic mesh with high open areas for water separation
- Specific multilayer for coalescing
- In-house test equipment (According to ISO 16332)

Recommended fabrics

Diesel conditioning, coalescing

SEFAR **ACCUFLOW**® 12-320-75

SEFAR **ACCUFLOW**® 12-690-75

Diesel conditioning, water separation

SEFAR **PETEX**® 07-15/19 hydrophobic

SEFAR **PETEX**® 07-20/22 hydrophobic

SEFAR **PETEX**® 07-40/40 hydrophobic

SEFAR **PETEX**® 07-50/37 hydrophobic

Sefar Test Equipment Laboratory



Laboratory

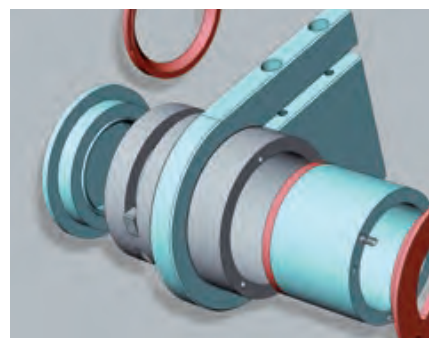
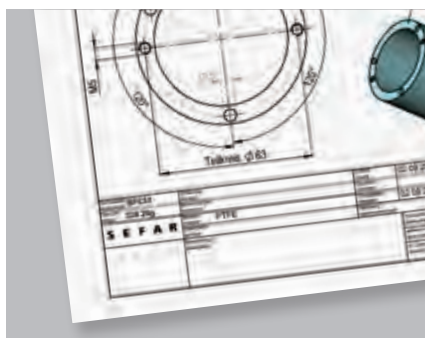
To analyze the behavior of our products, Sefar has specially designed equipment that replicates our customer's process.



Multi-Pass test bench

The test bench is designed as a multi pass test stand according to ISO 19438, ISO 16889, ISO 4548-12, SAE J905 and SAE J1985, as a part of the filter manufacturing and quality monitoring center.

Sefar Product Development Technical Consulting

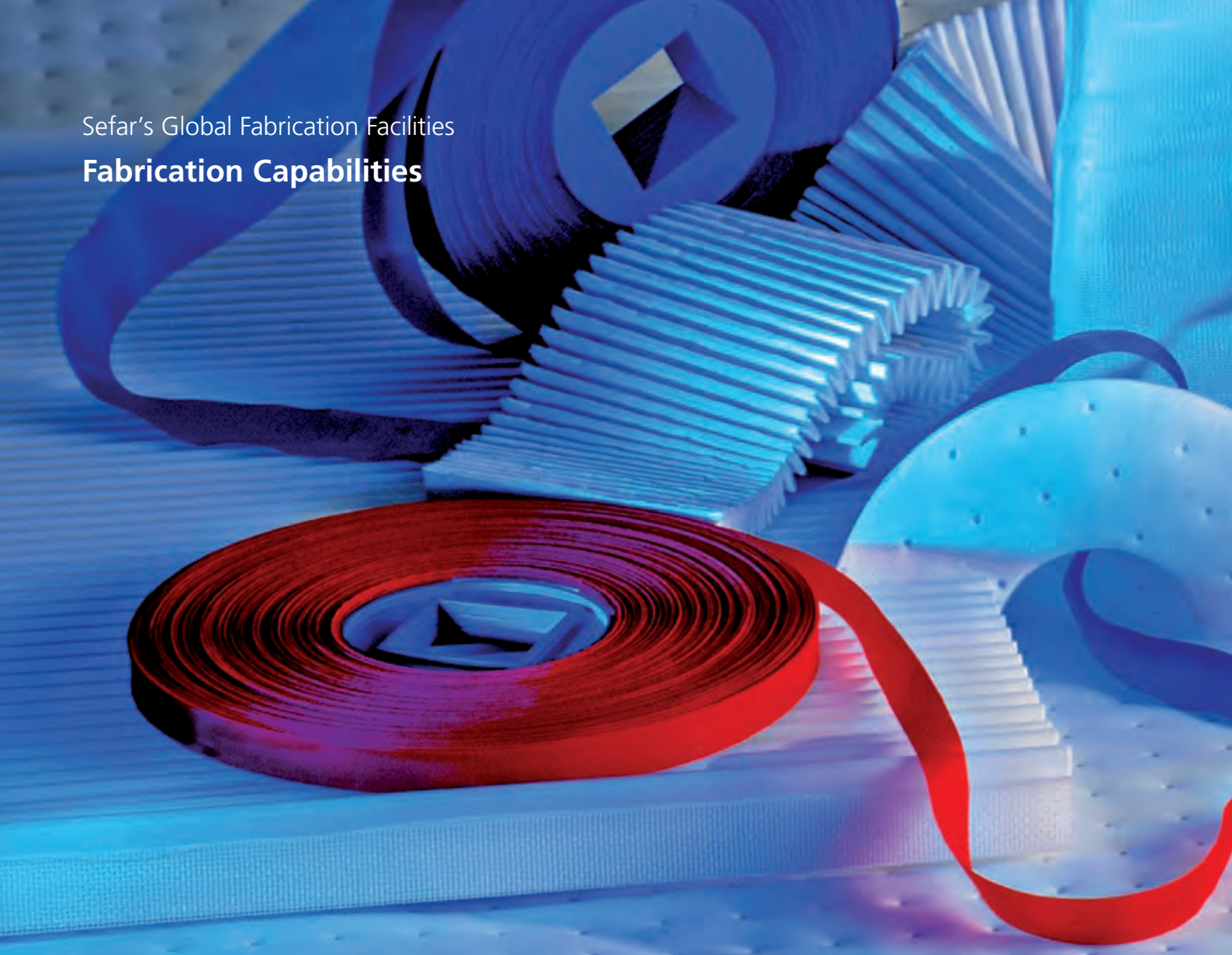


Technical consulting

Sefar is equipped with the high technology of drawings in 3-D to be perfectly adapted to each type of plate.

Sefar's Global Fabrication Facilities

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 ultrasonically slit.

Stamped discs, shapes

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

Tubes, continuous rolls

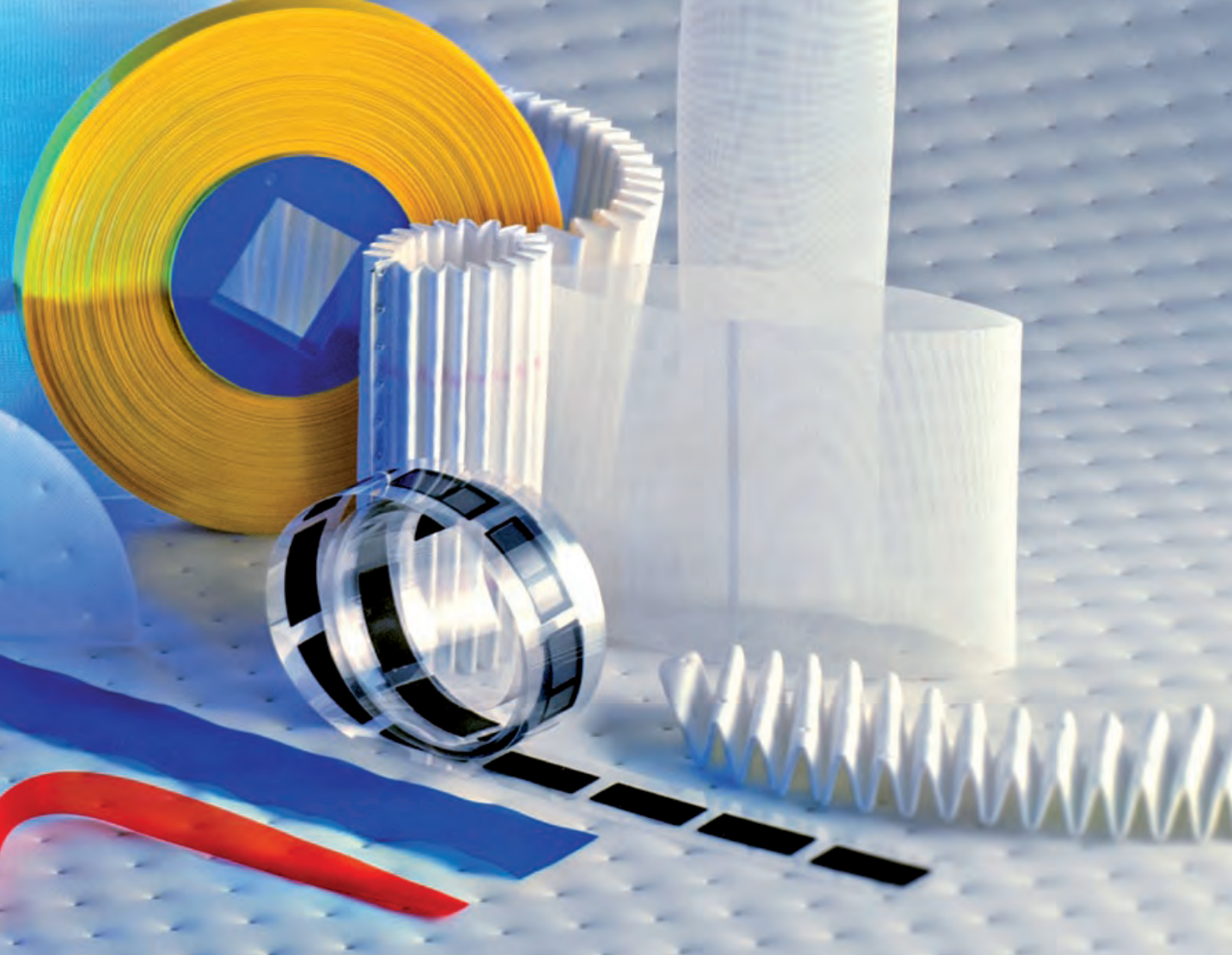
Single or multilayer, can be heat-slit or ultrasonically welded into tube configurations.

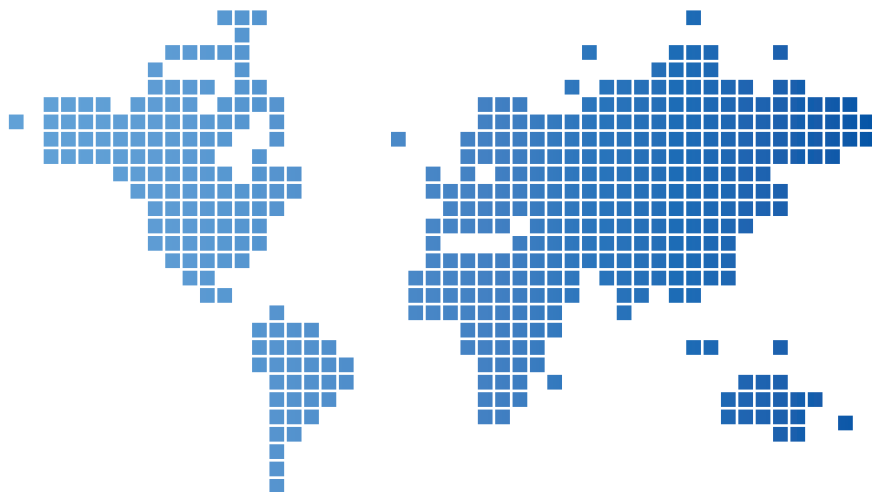
Tubes, cut to length

Tube segments can be cold or laser-cut.

Ultrasonic bonding calender

Ultrasonic calendering combines up to four layers together.





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.

Headquarters

Sefar AG

Hinterbissastrasse 12
9410 Heiden
Switzerland

Phone +41 71 898 57 00
Fax +41 71 898 57 21

automotive@sefar.com

<http://automotive.sefar.com>
www.sefar.com

Subsidiaries Africa

South Africa – Kya Sand
Phone +27 11 708 2485
info@sefarfilterpure.com

Morocco – Casablanca
Phone +212 522 66 14 66
info@sefar.ma

Subsidiaries Americas

USA – Buffalo
Phone +1 800 995 0531
sales@sefar.us

Canada – Saguenay
Phone +1 418 690 0888
info.bdh@sefar.com

Brazil – São Bernardo do Campo
Phone +55 11 4390 6300
contato.brasil@sefar.com

Mexico – Cuautitlan Izcalli
Phone +52 55 2291 0652
info.mexico@sefar.com

Subsidiaries Australia & New Zealand

Australia – Huntingwood
Phone +61 2 8822 1700
oceaniasales@sefar.com

New Zealand – MT Wellington
Phone +64 9 527 4409
salesnz@sefar.com

Subsidiaries Asia

China – Suzhou
Phone +86 512 6283 6383
info.cn@sefar.com

India – District Thane
Phone +91 2522 2940-34 /35 /36
info.in@sefar.com

Korea – Seoul
Phone +82 2713 9133
info.kr@sefar.com

Malaysia – Johor
Phone +60 7 861 0023
info.my@sefar.com

Singapore
Phone +65 6299 9092
info.sg@sefar.com

Thailand – Bangkok
Phone +66 2 6670 024
info.th@sefar.com

Vietnam – Ho Chi Minh City
Phone +84 862 925 562/3
info.vn@sefar.com

Subsidiaries Europe

England – Bury
Phone +44 161 765 3530
sales@sefar.co.uk

France – Lyon
Phone +33 472 13 14 15
vente@sefar.com

Germany – Edling
Phone +49 8071 90400 0
info@sefar.de

Italy – Collegno
Phone +39 011 42 001
info@sefar.it

Netherlands – Lochem
Phone +31 573 744 111
info@sefar.nl

Poland – Poznan
Phone +48 511 467 467
biuro.pl@sefar.com

Spain – Cardedeu
Phone +34 93 844 47 10
info.maissa@sefar.com

Turkey – Ankara
Phone +90 312 287 34 14
info.tr@sefar.com