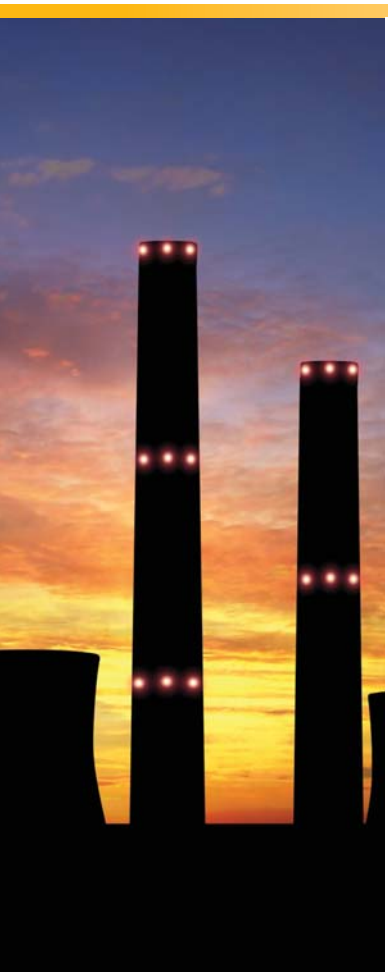
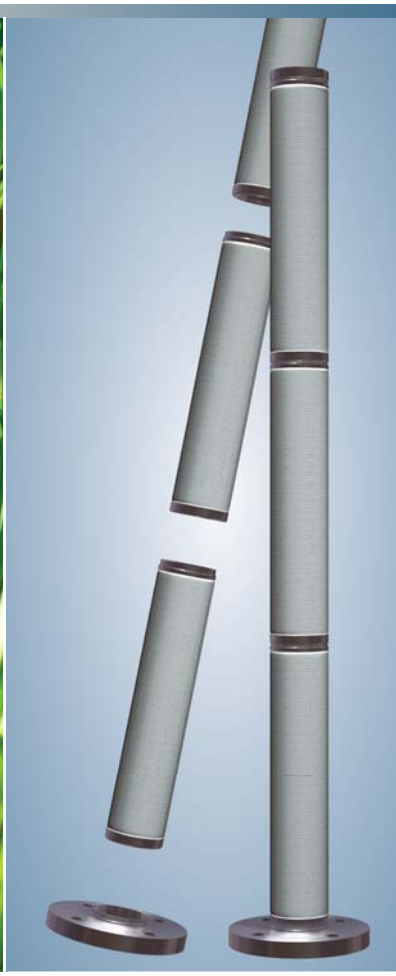
GKN SINTER METALS

THINK > Filter Technology



SIKA-FIL

ENGINEERING > THAT MOVES THE WORLD

Since 1759

250 years of exceptional engineering

GKN Sinter Metals Filters, the leading manufacturer of porous sinter metal products, offers a variety of solutions to fulfil customer requirements.
We are familiar with various applications in almost every industrial branch.
Our products are applied in gas- and liquid filtration, dampening, sparging, sensor protection, bulk handling and many more. We offer solutions for high temperature and corrosive environments.

Sintered filter elements made of stainless steels, bronze, nickel based alloys, titanium and several special alloys can be manufactured seamless up to 1,600 mm length and 320 mm OD. Larger elements will be assembled in our certified in-house welding shop.
Our most innovative product for the chemical industry is the patented metallic membrane SIKA-R...*AS*.

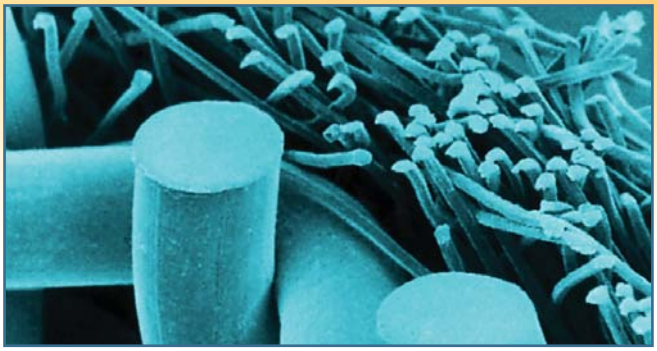
The filter cartridges equipped with this state-of-the-art technology offer a flow rate up to 4 times higher compared to conventional sinter metal filter cartridges. Furthermore an excellent back flush performance is guaranteed. The filter active membrane layer with filter grades down to 0.1 µm absolute has a thickness of only 200 µm and is made of the same alloy as the coarse support material. The membrane is sinter bonded to the support and therefore cannot peel off.

Another innovation introduced by GKN is the sinter bonded joint of porous parts with solid fittings in order to avoid welding seams – the weak spot of all sintered cartridges of our competitors.

All sintered materials of GKN offer a self-supporting structure with high mechanical strength.

We manufacture various filter grades with specified pore sizes and flow rates in order to have the appropriate solution for your requirements.

Metal Fibre Felt SIKA-FIL



SIKA-FIL, a trademark of GKN Sinter Metals, is our brand name for a sintered stainless steel fibre element.
Wiremesh or perforated sheets can be sintered as a support on request.

Characteristics

Due to the high degree of porosity up to 85 % of these composite metal fibre materials can achieve an extremely high flow rate, especially for gases.
In comparison to the particle size distribution of powder materials, the range of diameters of the fibres is very uniform, resulting in an equally narrow range of pore diameters. This ensures an optimal ratio of filter grade to permeability.

Properties

These characteristics result in the following important properties of SIKA-FIL products:

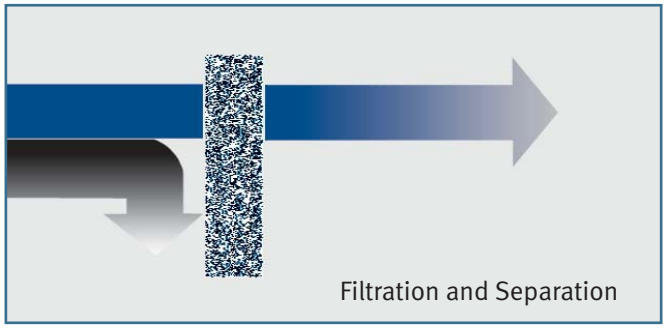
- Stable pore shape due to sinter processing
- High permeability
- Low pressure drop
- High dirt-holding capacity (longer lifetime)
- High temperature resistance
- Easy cleaning (back flushing)
- Corrosion resistant
- High degree of mechanical flexibility (ductile)

Applications

SIKA-FIL is employed in:

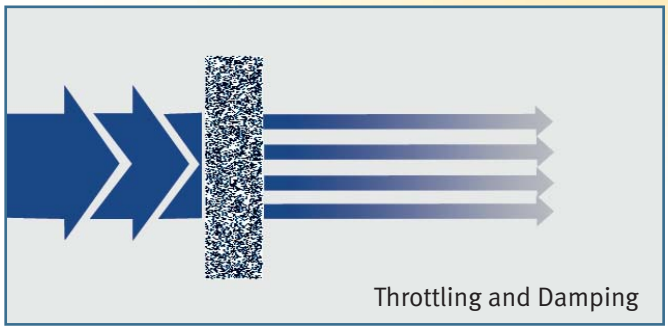
- Aerosol separation
- Polymer filtration
- Gas- and Liquid filtration
- Hot gas filtration

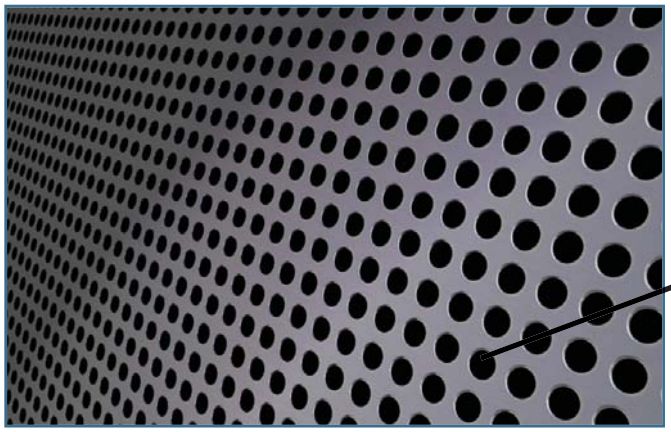
as well as in other industries such as chemical and food processing, power engineering and environmental technology.



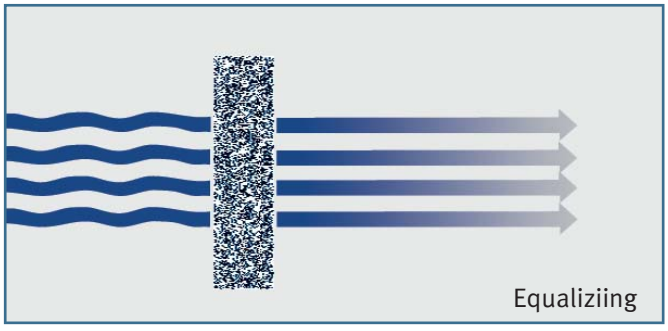
Filtration and Separation

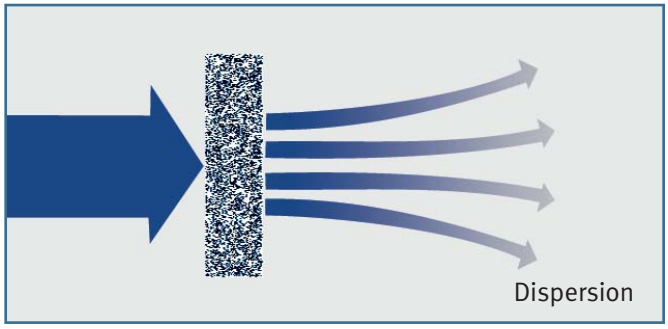
Industrial Dust Filtration





GKN fibre felt used as an sound dampening device in an APU (auxiliary power unit)





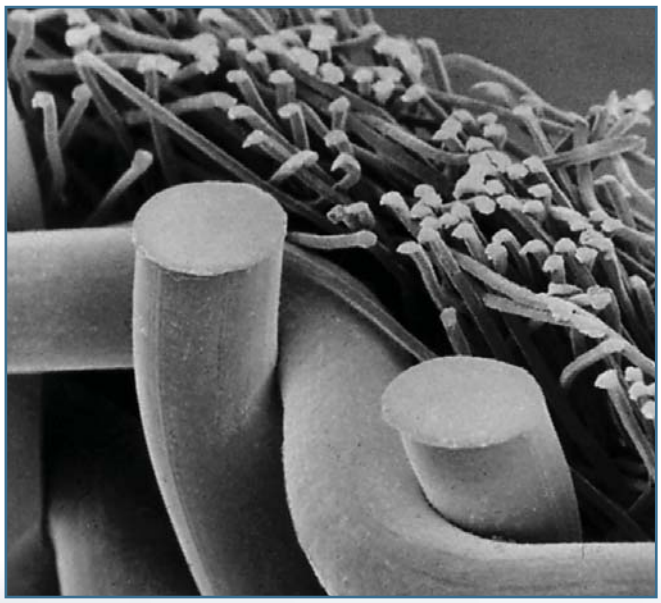
Good dispersion of liquids within the Fibre felt material and high suction effect due to the high porosity. Various applications, e.g. in ink cartridges.

Manufacturing of SIKA-FIL... Products

Manufacturing of SIKA-FIL is similar to powder metallurgical processes.
We produce composite fibre mats with an effective fibre diameter of 2 to 70 micron.
Different types of composite metal fibre mats are combined to achieve the adequate filter properties requested by our customers.
The composite fibre material is then sintered together with a supporting wire mesh under vacuum conditions in a unique soft-sintering process.

Materials

The standart material used to manufacture SIKA-FIL is AISI 316L (1.4404).
FeCrAl alloys are used for special (high temperature) applications.

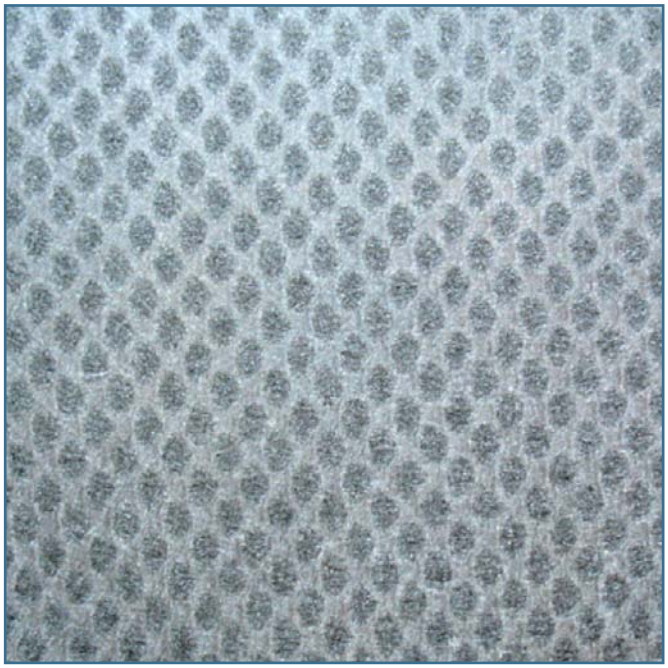


GKN Filter Grades

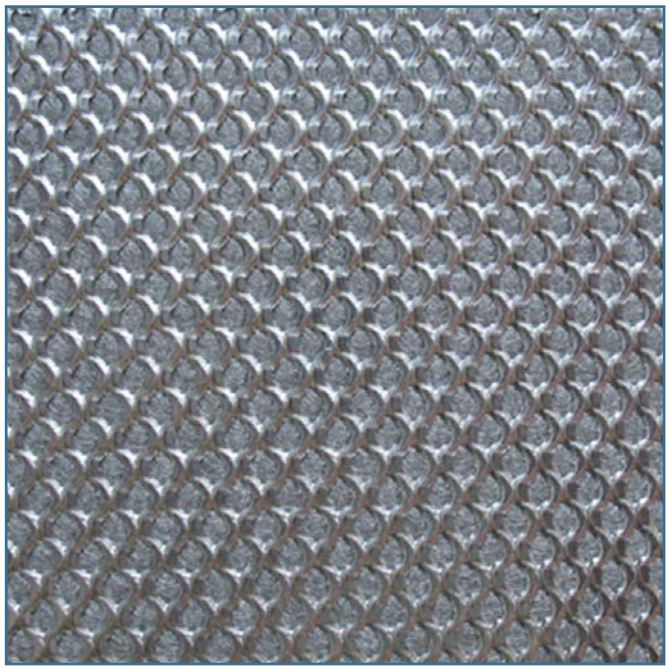
SIKA-FIL	1
SIKA-FIL	3
SIKA-FIL	3 P*
SIKA-FIL	5
SIKA-FIL	5 P*
SIKA-FIL	10
SIKA-FIL	10 P*
SIKA-FIL	15
SIKA-FIL	15 P*
SIKA-FIL	20
SIKA-FIL	20 P*
SIKA-FIL	25
SIKA-FIL	25 P*
SIKA-FIL	30
SIKA-FIL	30 P*
SIKA-FIL	35
SIKA-FIL	40
SIKA-FIL	40 P*
SIKA-FIL	50
SIKA-FIL	70
SIKA-FIL	100

*special for polymer applications

Standard Elements SIKA-FIL...ECO



Filter side of SIKA-FIL...ECO



Support side of SIKA-FIL...ECO

SIKA-FIL ...ECO is our fibre felt material combined with an expanded metal layer as a support.
This combination enables design of large filter elements with additional support construction.

Additional Applications of GKN Filters...

Catalyst recovery

Refinery

Water treatment

Pneumatic valves

Ex-protection

Food shaping

Basic Information for Designing a Filter

Customer's Information

Enquiry date: _____

Company Name _____
Contact Name _____
Street Address _____
ZIP _____
Town, US State _____
Country _____

1. The planned application of the SIKA element?

◯ Filtration ◯ Equalizing ◯ Fluidizing
◯ Separation ◯ Silencing ◯ Sparging
◯ Throttling ◯ Protecting ◯ Degassing

Others _____

2. What kind of gas or liquid will flow through the SIKA element?

Medium specification _____
Operation density _____
Dynamic viscosity _____
Operation temperature _____
Operating flow rate _____
Absolute operating pressure before SIKA-element _____
Wanted or permissible pressure drop of clean filter _____
Max permissible pressure drop of used filter _____

3. Which particles must be retained by a SIKA element?

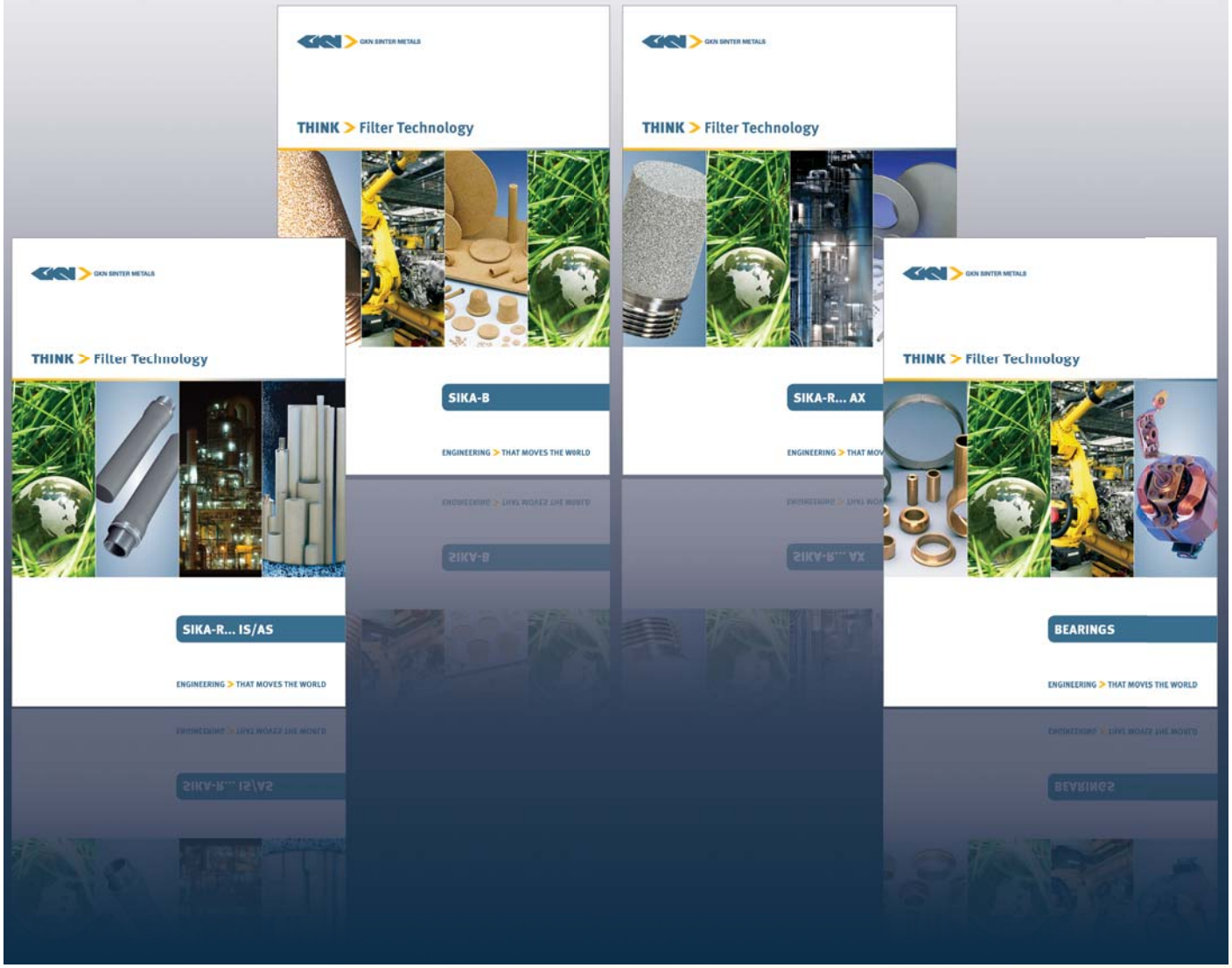
Description _____
_____
_____
Filter grade _____

4. How will the SIKA element be applied?

Shape of the element ◯ Tube ◯ Cartridge ◯ Sheet
◯ Disc ◯ Other
Connecting element ◯ Flange ◯ Thread ◯ Other
Housing diameter _____
Quantity _____

5. Short description of the process:

Further Brochures Available



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EXPECT>MORE

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