

Sensing

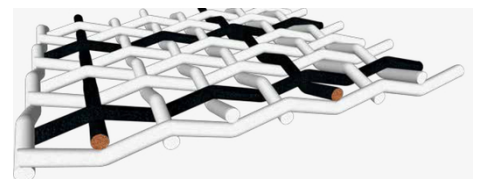
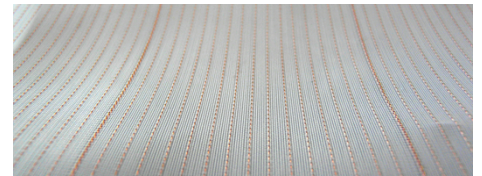
Our fabrics are used for measuring physical variables. They are lightweight, have a high air-permeability and are used in the transport, automobile and security industries.

Product features

Pressure-sensitive fabrics

Sefar provides a mass-producible generic fabric for sensors which allow the measurement of various activities of human bodies by capacitive, resistive and/or bio-impedance mode.

- The most interesting sensing mode represents the pressure resistive sensor.
- The sensor consists of two fabrics with an array of metallic conductive parallel stripes as electrodes and a third fabric as semi-conductive intermediate layer (see graphic).
- As the sensor area is pressed, the resistance decreases (see graphic). The resistance-pressure relationship is predictable and repeatable and resistance is insensitive to other physical variables.
- The fabric pressure sensor shows sensor function properties having by far the most sensitive structure in the response.



DOWNLOADS

Large scale textile pressure sensor (PDF
546 kb)

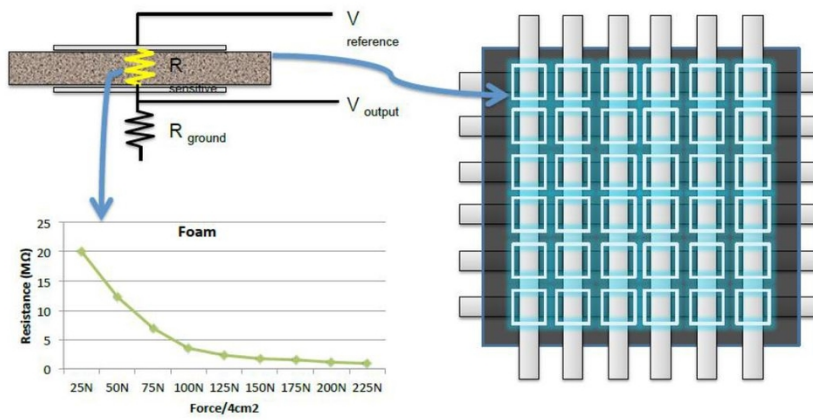
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Sefar Sensing Fabrics were developed in the frame of the European Project [SimpleSkin](#).

Sensing with fabrics

The PowerSens fabrics are woven fabrics usually consisting of PET and electrically conductive filaments.

PowerSens fabric properties

- Able to sense physical quantities such as conductivity, temperature and elongation
- Customer-specific designs
- Electrical insulation available
- Light weight (< 90 g/m 2 , filament diameters 40 – 80 μ m)

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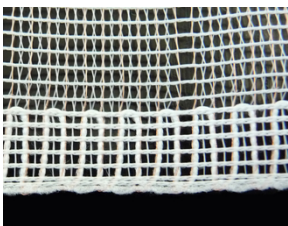
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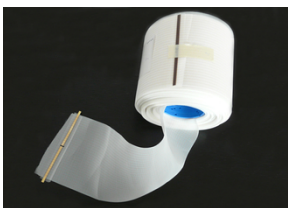
- High air permeability (> 8000 l/m²/s, depending on fabric design)
- Compatible to injection mold processes

Examples of applications



Intrusion detection – Security industry

- Thin metal wire is embedded in the fabric as an endless serpentine weave
- Breakage of the wire sets off the alarm



Electrically insulated wires in warp direction in combination with an intelligent contacting enable breakage detection of pipelines.

Your benefits

SEFAR PowerSens fabrics are customer-specifically developed and manufactured. Physical quantities such as temperature, elongation, liquid levels etc. can be measured through Sefar fabrics.

- Unobtrusive measurement of physical quantities
- Fabric can be formed to fit any shape

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Sefar supports you by helping you specify the properties necessary for your product.

Locations



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