

Technical needlemats
for **thermal and acoustic**
insulation and filtration industry.



GASKETS

TECHNICAL TEXTILES

EXPANSION JOINTS

INSULATION

NEW MATERIALS



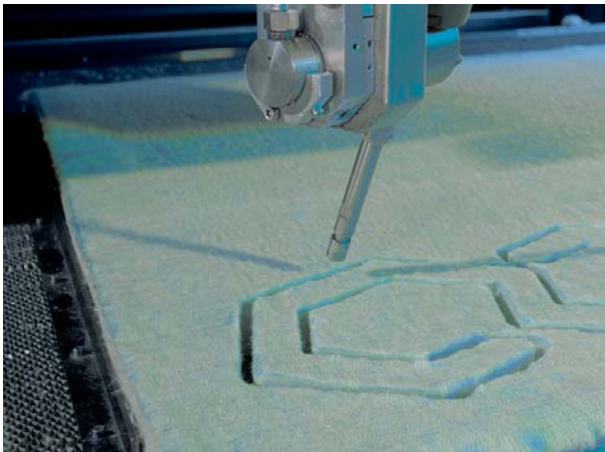
creating
hightech
solutions

Technical needlemats

As a major supplier of technical textiles for use in gaskets and thermal insulation we help our customers to increase their competitive edge over their competitors.

Frenzelit has been developing and manufacturing textiles which are capable of withstanding high temperatures for more than 50 years. We listen to customer requirements, and give pro-active support throughout the development, sampling and manufacturing processes.

Your advantage: You, the customer, benefit not only from our technical knowledge but also from our decades of experience in application engineering.



There are five technical needlemat product lines offered by Frenzelit, each with different temperature limits and numerous product types – perfectly adapted to their particular application.

Innovations made by Frenzelit

Continuous improvement is essential in order to remain competitive in today's market. Frenzelit has extensive research and development facilities where new products are fully tested prior to introduction to the marketplace. Where customers provide time constraints we are able to offer timely customer support to ensure solutions are found and new technologies are implemented on time and within budget. These are the outstanding features of "innovations made by Frenzelit".

Application areas

Careful selection and optimum processing of our raw materials make sure that technical needlemats from Frenzelit have consistently high insulation properties – whether they are supplied in reels, punched or cut into 3D and 2D shapes by water jets.

Our technical needlemats are used not only in the insulation field but also in many other areas. The product line chosen is determined according to the insulation capacity required and the application temperature.



Photo: Buderus Deutschland

Photo: Loos

Product lines

isoTHERM® S

Application temperature limit
1050 °C (1100 °C for a short time)

Special SiO₂ glass fibres that withstand high temperatures are the basic material for these products.

Their characteristic properties are low thermal conductivity, minimum heat storage and absolute incombustibility.

isoTHERM® S does not irritate the skin, is absolutely harmless to health and has excellent chemical resistance properties.

- Filament diameter 6–9 µm
- Incombustible (approved for fire category A1 according to DIN 4102)
- SBG approval



isoTHERM® 1000 isoGLAS®

Application temperature limit
850 °C (1000 °C for a short time)

The basic material is produced by a chemical refinement process. The components that melt at a low temperature are eliminated from E-glass fibres in this process, so that the temperature resistance level is increased. The products can be identified by their light blue colour.

isoTHERM® 1000 has extremely textile properties, does not irritate the skin at all and is classified as absolutely harmless to health.

- Filament diameter 6 µm
- Incombustible (approved for fire category A1 according to DIN 4102)



Application temperature limit
450 °C (550 °C for a short time)

E-glass is the basic material. Texturing guarantees a large storage volume and thus good insulation properties.

isoGLAS® mats are extremely textile and harmless to health.

- Filament diameter 6–11 µm
- Incombustible (approved for fire category A1 according to DIN 4102)
- SBG approval



isoCOMPOSITE®

Application temperature limit
850 °C (1000 °C for a short time)

A specific combination of isoTHERM® and isoGLAS® needlemats is the basic material for this mat.

It is an extremely efficient and economic heat insulation material.



Do you have any questions about your application?

The technical textiles information service will help you:

textile@frenzelit.de

isoTECH® needlemats

High-performance fibres made – for example – from meta-aramide, para-aramide, polyester, viscose FR, polyimide, polypropylene and carbon are the basis for this generation of innovative needlemats – either in combinations or alone, depending on the application.

isoTECH® needlemats are developed in close co-operation with our customers for specific applications – so they are always a solution that meets your requirements perfectly. Their thickness and weight depend on the fibre used in each case.



Product types

isoTHERM® S

Thickness: 3 - 25 mm
Weight: 350 - 4300 g/m²

isoTHERM® 1000

Thickness: 6, 10 mm
Weight: 700, 1400 g/m²

isoCOMPOSITE®

Thickness: 10 - 75 mm
Weight: 1800 - 10000 g/m²

isoGLAS®

Thickness: 3 - 75 mm
Weight: 300 - 10000 g/m²

isoTECH® needlemats

Thickness: Up to 25 mm
Weight: 100 - 2000 g/m²

Different grades, versions and dimensions as well as finished parts are available on request.

Application areas

Automotive

Insulation
Heat shielding
Rear-window shelves
Panelling
Soundproofing
Wagon manufacturing

Heating and air conditioning

Heating system production
Heatproofing production
Tiled and chimney heating stove insulation

Power industry

Solar collectors

Machine manufacturing and plant engineering

Turbine insulation
Insulation pillows
Expansion joints
External insulation of boilers
Soundproofing

Electrical appliance industry

Night storage heaters
Electric cookers
Ovens
Gas cookers
Fire protection in cable ducts

Safety engineering

Fire protection
Fire barriers
Fire protection covers
Fire door insulation
Roll-down doors

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Good for people and environment.

Frenzelit has obtained certification that the company complies with the requirements of both ISO/TS 16949 and ISO 14001. This means complete transparency in all areas and a high degree of security for our customers.

Quality management

ISO/TS 16949

Environmental management

ISO 14001

Further sealing and insulating products from Frenzelit

Technical tapes and woven fabrics
for sealing and insulation



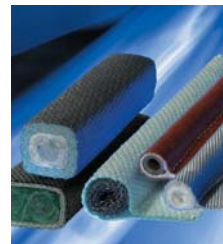
Technical cords and braids
for sealing and insulation



novaSEAL®
Boiler and tank rings



Tadpole tapes, wound packings and layered tapes
for sealing applications



Solutions
for acoustic and heat insulation



Thermal blankets
to protect people and property



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