
HILTEX
Technical Textiles
fabrics for tomorrow
www.hiltex.com

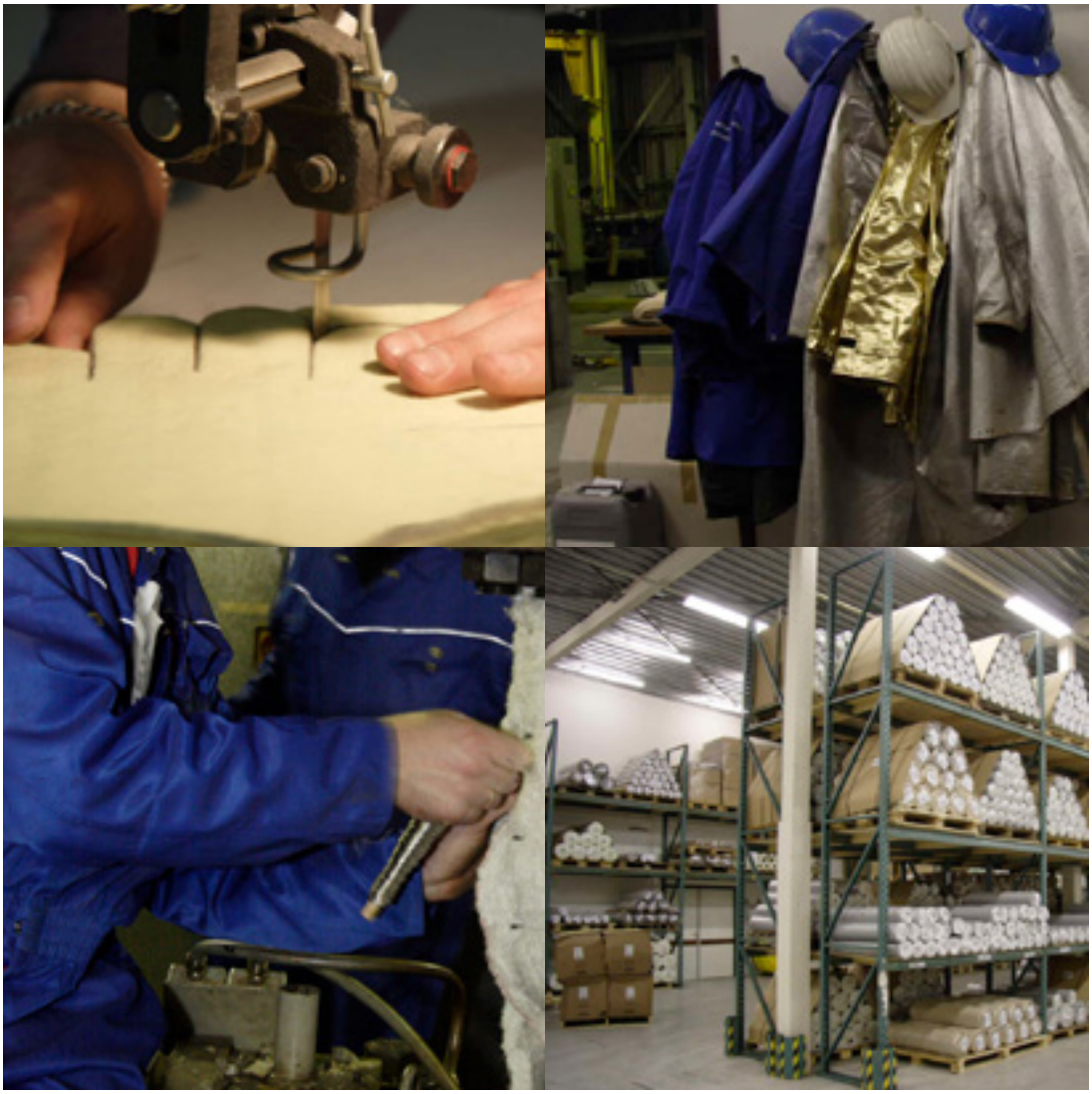
Hiltex Technische Weefsels is an internationally orientated multi-product producer of heat-resistant technical textiles. Hiltex Technische Weefsels was founded by Pieter Hildering in 1987 in Assendelft, in the vicinity of Amsterdam. Since then the company has grown on a constant basis over the years and is now serving customers in more than 74 countries worldwide.

Since that time our company has gained substantial experience in the use of these fireproof and fire retardant products in the shipbuilding, chemical, petrochemical, semiconductor, aerospace, automotive, defence and steel industries, among others. We are happy to share our experience with all our customers and to answer any questions they may have.

Hiltex supplies a comprehensive range of materials to the insulation, safety and protection industries. Our longstanding commitment to technical leadership, and to research and development is reflected in the constant introduction of new products to address our customers' needs.

Every since we started in business, we've been focused on the future. Three words capture the essence of Hiltex:

fabrics for **tomorrow**



WHAT CAN HILTEX DO FOR YOU?

→ Research and development of new products.
→ Tailor-made solutions; we think along with you to solve your technical problems.
→ Well stocked warehouse; more than 90% of our products are from available stock.
→ Delivery anywhere in the Netherlands within 24 hours.
→ Shipment to any destination in the world within 48 hours.
→ Hands-on mentality; if required, we'll come to your location to take a look at your technical challenge, take measurements, and provide advice on how to solve your problem.
→ All Hiltex employees are dedicated to delivering the best available service to you.

HILTEX SERVES MANY INDUSTRIES:

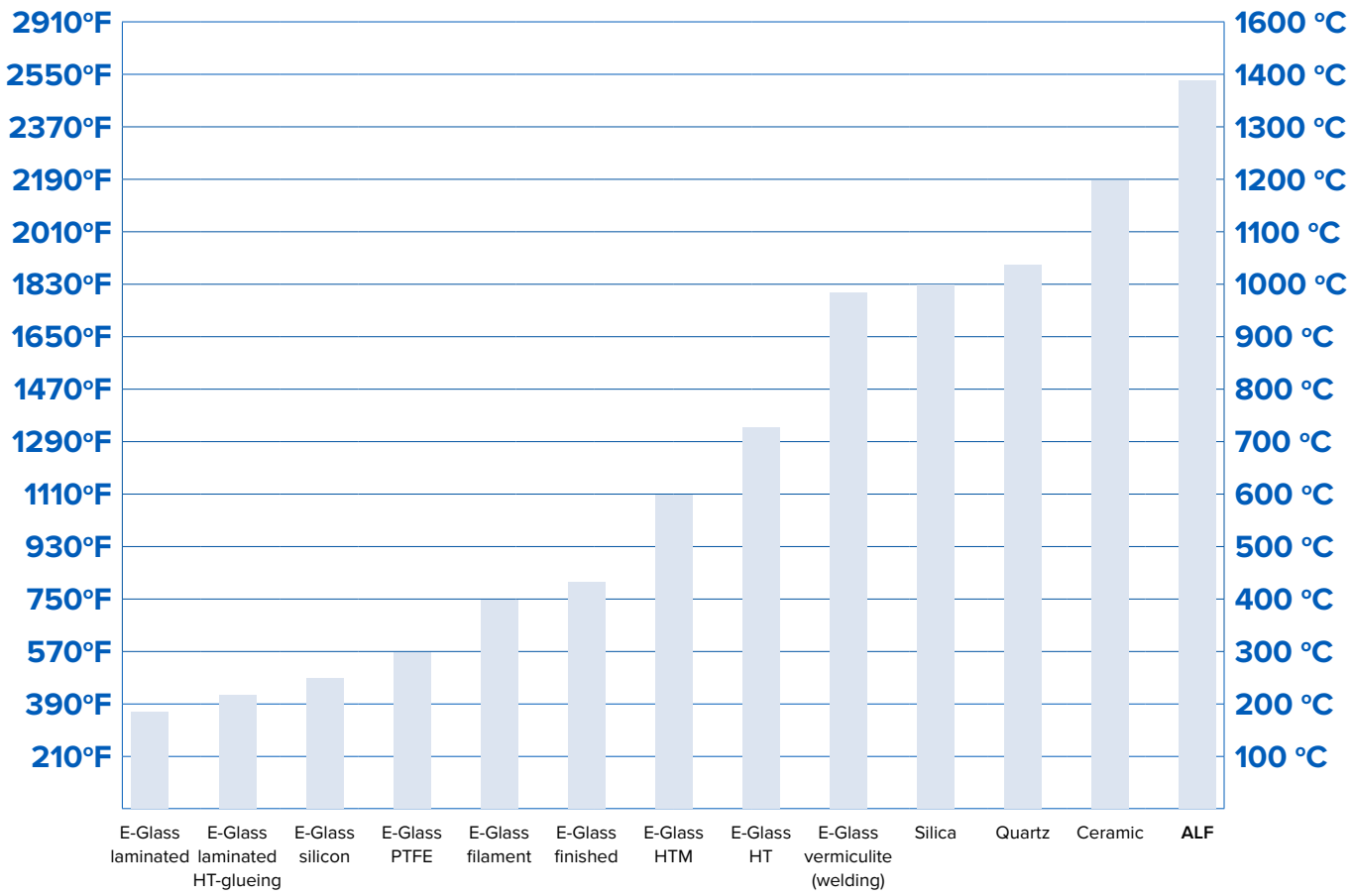
→ Steel and aluminium
→ Shipbuilding
→ Power plants (gas turbine exhausts)
→ Compensators
→ Welding protection
→ Air & Space
→ Nuclear energy
→ Semiconductors
→ Chemicals
→ Automotive
→ Fire protection
→ Glass
→ Military

Hiltex ensures
that our products
will meet our
high quality standards
in every possible
industrial or natural
environment.

THERMAL BEHAVIOUR OF HILTEX PRODUCTS

The graphic display provides an overview of which Hiltex fabrics are suited to each temperature range.

Please feel free to contact us any time with inquiries about the best solution for your particular technical requirements. Our skilled and friendly colleagues will be happy to answer any questions you may have.



E-GLASS

The distinguishing properties of textiles made from raw materials like E-glass are their perfect resistance to high temperatures, excellent thermal and acoustic insulation properties, great mechanical strength, versatile implementation possibilities and uncomplicated processing characteristics. The diameter of the yarn measures 6 or 9 µm. Because the threads are so fine, final products have good flexibility and will not cause skin irritation.

Glass textiles made from continuous filament glass yarns are smooth, shiny and soft, and are available in loomstate, coated finish and laminated forms.

Because of their large volume, textured glass textiles have outstanding insulating characteristics. The fabric is fluffy and feels like natural fibre textiles to the touch. They can be used in a wide variety of applications, in raw form or treated with a wide variety of coatings. In many cases the fabric is caramelised (a thermal treatment, also called heat cleaning) to reduce the emission of smoke.

Available weight and thickness of loomstate Glassfabric

Weight/m2	Thickness	Weave style
200 gram	0.18 mm	plain weave
345 gram	0.40 mm	twill 2/2
405 gram	1.20 mm	twill 2/2
430 gram	0.40 mm	4 shaft satin
600 gram	0.80 mm	fancy weave
620 gram	0.85 mm	plain weave
630 gram	1.10 mm	plain weave
950 gram	1.50 mm	4 shaft satin
1000 gram	2.00 mm	plain weave
2000 gram	3.00 mm	plain weave

E-Glass needle felt

The general transition from asbestos to glass fibres has resulted in an increasingly wide range of applications for Hiltex needle felt – a mechanically (rather than organically) bonded glass fibre insulating blanket. A 100% “E” fibreglass mat, the felt is manufactured in web form and mechanically needled together to form thicknesses of 6 mm, 12,5 mm and 25 mm. Long textile fibres have been accurately chopped to provide maximum density, high insulation and strong physical properties at temperatures up to 648°C (1200°F).

Hiltex needle felt is non-corrosive, non-combustible, non-alkaline and chemically stable. Its excellent heat resistance, exibility and low thermal conductivity makes it an effective, low-cost replacement for asbestos mats, millboard refractory paper and other similar products.

Hiltex needle felt products are being used for increasingly complex applications in oil refineries, steam and gas turbines, exhaust systems on diesel tugs, tankers, pleasure yachts, and Coast Guard and Navy vessels.

They are used to relieve stress at welding points, on valve flange covers and for acoustic absorption applications. In addition, needled blankets act as insulators for automotive thermostatic switches, on floor pans over catalytic converters and in luggage compartments.

In nuclear power plants, these blankets reduce labour costs during removal for inspection and service, and reduce re- insulation costs associated with poor-fitting rigid block.

SILICA

Silica textiles are highly resistant to corrosion and deterioration caused by chemicals, have good electrical insulation capabilities and remain flexible and drapable at high temperatures. Besides these excellent qualities, silica textiles are resistant to thermal shock, will resist molten metal splashing, welding splatter and direct flame impact. Silica materials are often used as filters in the production of casting acid, and also as moisture- resistant filling in composite materials that require unimpeded performance at high temperatures. The melting point of silica textiles is above 1600°C.

There are many types of applications for silica, each one is perfectly qualified for its own field of usage.

Silica fabrics

Used primarily for high temperature insulation, thermal protection for several technical branches, blankets, molten metal splash protection, open flame and refractory padding.

Silica yarns

These equalized twisted yarns are made in several plies. The yarns are comprised of a collection of hundreds of single continuous filaments. During the production process they are subjected to thermal and chemical treatments to assure superior quality.

Silica meshes

These meshes are used for filtering and cleaning of melted materials and are placed directly under the pouring gate of the moulding box.

Silica fibre

Chopped silica fibres are used as thermal insulation in a wide variety of applications.

Silica felt

This combination of fluffy fibres is frequently used as filler for mattresses and also employed for high temperature thermal insulation and protection.

Available weight and thickness off loomstate Silicafabric:

Weight/m2	Thickness	Weave style
180 gram	0.20 mm	plain weave
300 gram	0.44 mm	plain weave
400 gram	0.40 mm	twill
600 gram	1.00 mm	atlas 8/3
1220 gram	1.30 mm	atlas 12/7
1400 gram	2.30 mm	plain weave

All fabrics are available in pre-shrunk, coated and/or impregnated versions.

ALF

ALF is generally called Alumina Fibre. As the composite is 72% Alumina and 28% Silica or 80% Alumina and 20% Silica and many other formulas, we name it Alumina Silica Fibre. The product/yarns are produced as a 7 micron diameter lament and are boron free.

The 7 micron diameter allows superior flexibility compared to other available materials. Furthermore, because the fibre is boron-free, problems associated with the release of boron gas are not a factor. Performance and durability of Hiltex Alumina Silica Fibre is superior to other products presently available.

ALF suffers almost no loss of mechanical strength at temperatures up to 1200°C and can be used for applications approaching 1395°C.

ALF is available as woven cloth, braided sleeve, tape, rope, yarn and sewing yarn and is appropriate for countless applications including the following:

→ Thermal insulation rings
→ Furnace linings
→ Heat-shielding curtains
→ Thermal insulation sealers or packing materials
→ Thermal insulation coverings for thermocouples, cables and wires
→ Roller covers for tempered glass plate manufacturing
→ Filters for molten metals
→ Spacers for heat treatment
→ Abrasives for plastic whetstones
Insulators around generator and aircraft/rocket engines
→ Catalyst carriers
→ Electrical and thermal insulators for diesel particulate filter (DPF) systems
→ Alumina-silica fibre reinforced plastics (FRP), insulation and structural materials for cryogenic / apparat uses
→ Alumina-silica fibre reinforced metals (FRM)
→ Ceramic Matrix Composite

ALF CLOTH

Type name	Weave	Width	Weight/m²	Thickness	Roll-length
2525	plain	100 cm	135 gram	0.21 mm	30 m
0909	plain	100 cm	145 gram	0.41 mm	30 m
2626	plain	100 cm	280 gram	0.31 mm	30 m
3025	twill	100 cm	440 gram	0.55 mm	30 m
1111	plain	100 cm	550 gram	0.87 mm	30 m
4018	double twill	100 cm	940 gram	1.35 mm	30 m

ALF SLEEVE

Type name	Inside Ø mm	Weight/m	Alumina/Silica Ratio %
SV-1	1	2.4 gram	72/28
SV-3	3	8.3 gram	72/28
SV-6	6	12	72/28
SV-10	10	20	72/28
SV-12	12	24	72/28
SV-16	16	38	72/28
SV-20	20	44	72/28
SV-25	25	70	72/28
SV-32	32	108	72/28
SV-40	40	90	72/28
SV-50	50	124	60/40
SV-58	58	116	60/40
SV-60	60	182	60/40
SV-63	63	108	60/40
SV-70	70	218	60/40
SV-85	85	333	60/40
SV-95	95	390	60/40

We also have various types and sizes of ALF yarn, tape and sewing thread (hand and machine).

SAFETY AND ENVIRONMENT

All the Hiltex products are environmentally friendly and safe to work with. No asbestos is used in any of our textiles or yarns and accordingly, none of our products are classified as hazardous. Alf and Quartz fibres are non-respirable due to their diameter and length.

Hiltex products **applications**

HIGH TEMPERATURE GLASS

For higher temperature exposure, textured E-glass products are used with an added high temperature treatment. An inorganic finish is applied to the surface of the fabric, giving the fabric temperature resistance up to 750°C.

End products made from H.T. glass products take many different forms: yarn, cords, knitted ropes, tape, packing and sleeving. These products have perfect insulating characteristics as well as excellent abrasion and tear resistance. For additional strength and support in applications where fabrics will be subjected to high mechanical stress, stainless steel threads may be woven into the fabric.

E-GLASS COATINGS

E-Glass and silica fabrics can be treated with different coatings or finishes to precisely meet customer specifications. Among the possibilities: reflective or water resistant surfaces, enhanced cut resistance, and increased thermal and mechanical resistance for higher performance in high temperature applications such as welding.

The following types of coatings are available:

→ Synthetic coatings, such as polyurethane or other polymers for welding blankets, curtains and insulation pads.
→ Silicone rubber or PTFE coatings for insulation pads, expansion joints and applications in the chemical industry.
→ Finishes like weavelock, high temperature treatments HT900 and vermiculite coating for welding applications, special nish T1000 for silica fabrics (for high temperature pads).
→ Laminated foils, i.e. aluminium foil, aluminized polyester foil (Mylar), aluminium transfer foil and stainless steel foil to increase the re ectivity of the product.

HILTEX SPECIAL PRODUCTS

We carry a wide variety of other products including:
→ Aramid textiles and flets (Nomex®, Preox®, Kevlar®)
→ Fire blankets (according to EN1869:1997)
→ Welding blankets
→ E-glass ropes and packing
→ E-glass fibre tape
→ Vermiculite coated glass fibre tape
→ Silica needle felts
→ Yarns in several high qualities
→ Indicator cloths
→ Te on coated PTFE laminates

All of these articles meet the same discerning standards for quality that we at Hiltex maintain across our product range. Each item is suited to particular applications and a specific temperature range.

Please contact us with your technical questions so we can advise you on suitable products for your job.

PTFE & LAMINATED FLUOR PLASTIC

Laminated Fluor Plastic is an all-PTFE material that is flexible, resistant to tearing and displays superior exing capabilities compared to other PTFE-products. Because this is an all-PTFE product with excellent mechanical properties, it does not require any compromising reinforcement that might be adversely affected by exposure to chemicals. In laboratory tests and in real-world industrial applications, Laminated Fluor Plastic has been proven impervious to damage from chemical exposure. Regardless of the chemical environment, Laminated Fluor Plastic retains all of its physical properties.

The technology that circumvents inherent shortcomings in conventional per uoroplastic materials utilizes a cross-pattern lamination process combining a number of layers of speci cally oriented PTFE lm. The cross-pattern lamination will typically incorporate 3 mil or 4 mil lm plies. On occasion, thinner plies will be stacked to create thicker plies, such as a 9 mil or 10 mil plies, for the laminate design.

LAMINATED FLUOR PLASTIC

Our Laminated Fluor Plastic can be welded with specially designed welding equipment to produce any size needed. Because PFA film is used as an adhesive, the welded parts exhibit the same resistance to chemical exposure. Flexing and folding have no impact on the performance of our product.
Our products start where PTFE stops!

Laminated Fluor Plastics can be used as liners, chemical barriers in expansion joints, and flexible covers in base chemical production. Our products are available in standalone versions (100% PTFE) and in a complete range of combined products with textiles. Our product range includes lightweight PTFE/Fibreglass coated products in weights up to 600 grams for insulation pads, PTFE-coated products for dry chemical environments weighing up to 2500 grams, and laminated products with the protective material on either one or two sides for direct contact with liquid and gaseous substances.

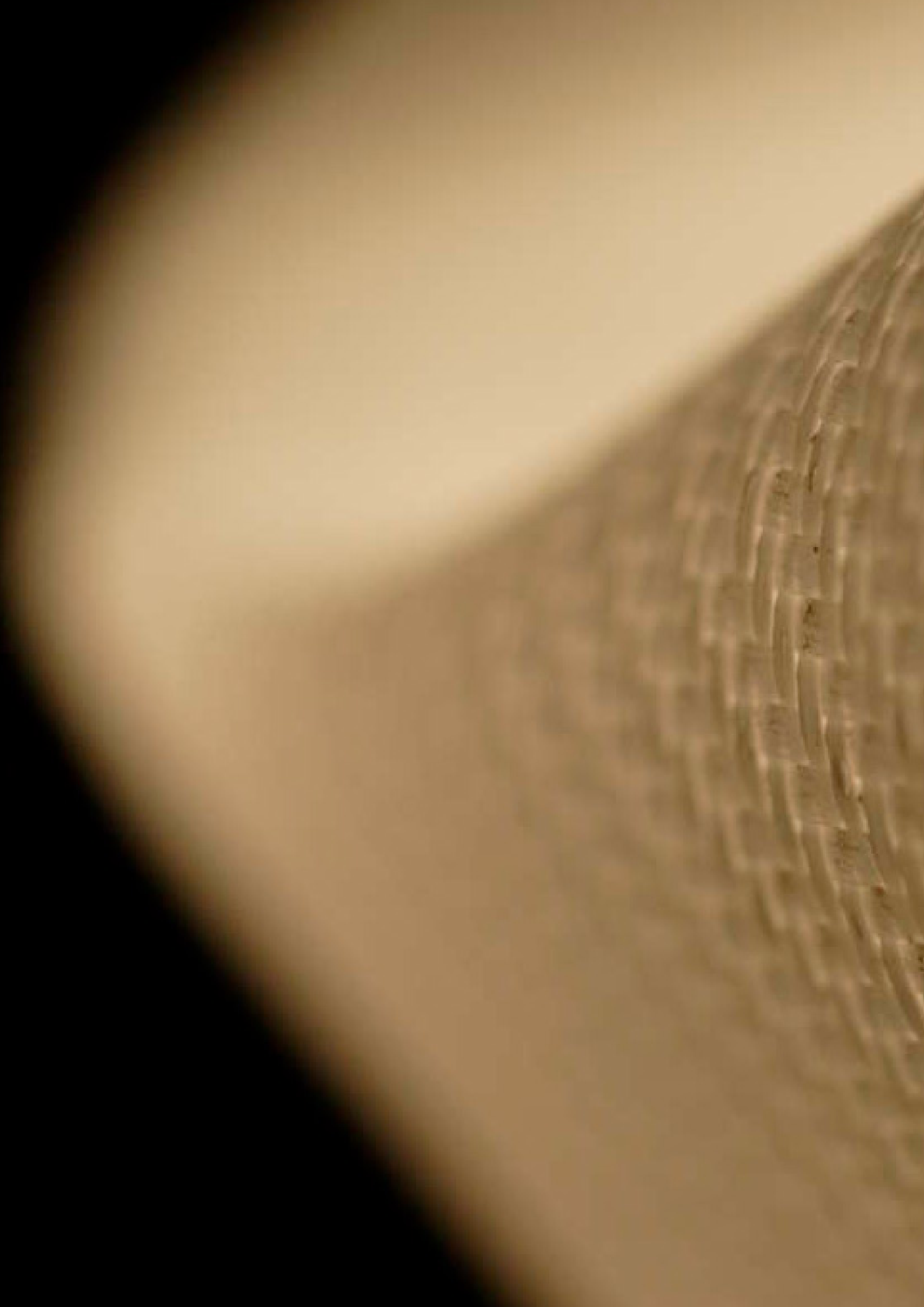
We also produce 12.5 mm breglass insulation mats bonded to the textile with PTFE. These single-layer products can be used when temperatures will be exceeding 500°C. Due to this unique manufacturing process, complex insulation problems can be solved with a single-layer product.

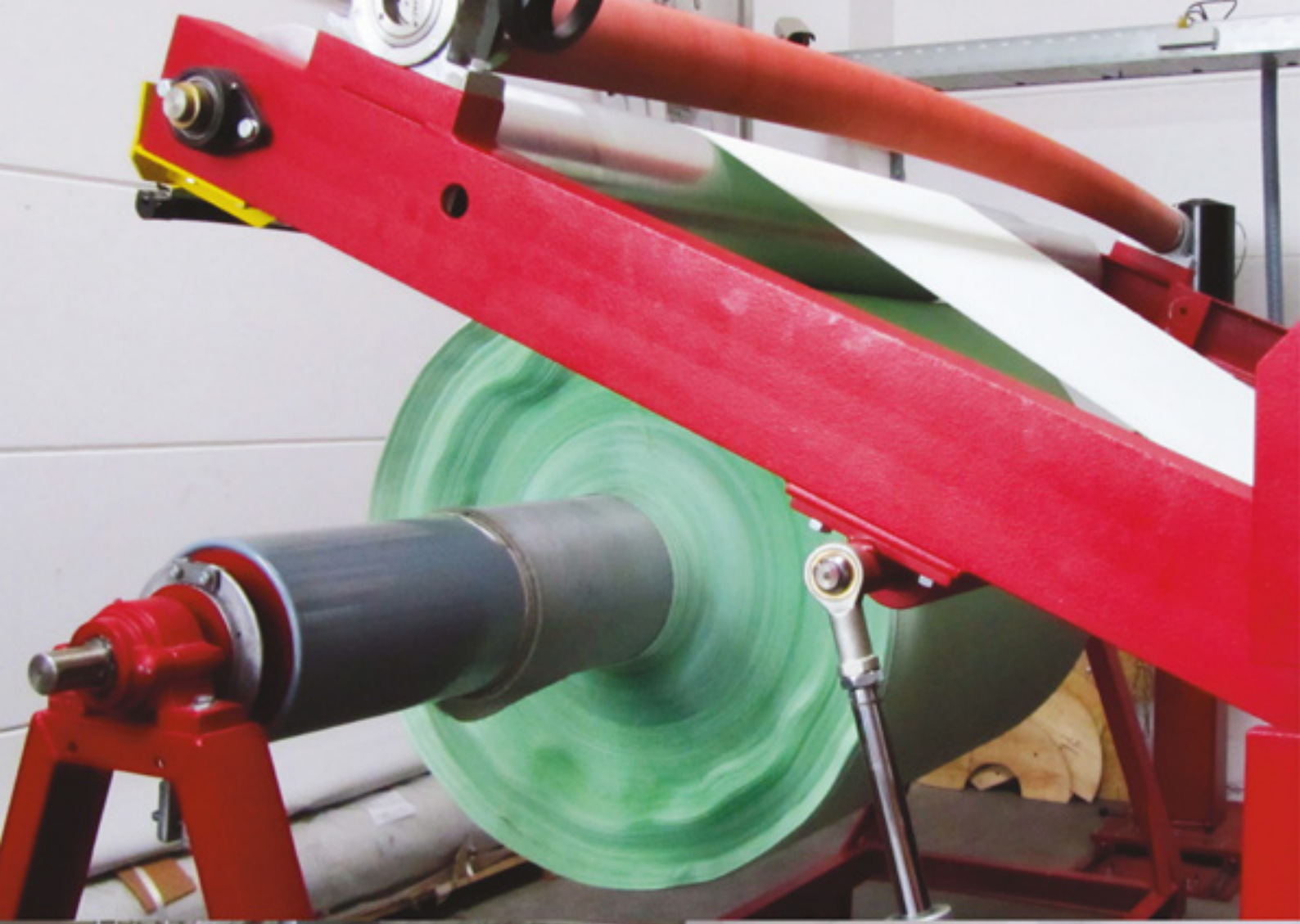
The characteristics of Laminated Fluor Plastics make it possible to manufacture flexible hoses for solvent applications with no risk of collapse.

This technology is appropriate for numerous applications including:

→ Insulation jacketing
→ Release liners
→ Expansion joints
→ Covers for basic chlorine production
→ Flexible seals for basic chlorine production
→ Floating roof seals
→ Flexible ducting
→ Belting
→ Spray shields for flanges
→ Containment layers for environmental protection
→ Ducting
→ Bellows-Tank liners

Ask us to advise you on the solutions we can offer for complex chemical environments.





DST

In 2010 DST GmbH in Germany has been established. A joint venture between Mrs. Petra Darmstädter and Hiltex. Mrs. Petra Darmstädter has been in the industry for more than 25 years as the most knowledgeable expert in coating, laminating and impregnation of high tech textiles. Located in Wesel Germany in the middle of the German High Tech textile industry we have built one of the most modern coating lines in the world. Our line is dedicated for the following industries: Fire proofing and fire door textile products manufacturing. Heat resistant and reflective safety clothing products and developments. Automotive heat solutions. Thermal insulation coatings and finishes. Solutions for temperature protection and insulation. Please pay us a visit at www.dst.eu

CERTIFCATES

Hiltex and DST have many products certified. Depending on the application, certificates have been done under our name or in combination with our customers under their name.
We have qualified our material for smoke curtains and fire doors as well as non- combustible materials in shipbuilding industry. For jet fires and many other applications we have approvals.
Many of our products are certified for Marine Directive solutions under: MARINE EQUIPMENT DIRECTIVE (MED) 96/98/EC.

CONDITIONS OF SALE

All statements, technical information and recommendations contained herein are based on tests we believe to be reliable, but the accuracy or completeness thereof is not guaranteed, and the following is made in lieu of all warranties, expressed or implied.

Seller's and manufacturer's only obligation shall be to replace such quantity of the product proved to be defective. Neither seller nor manufacturer shall be liable for any injury, loss or damage, direct or consequential, arising out of the use of or the inability to use the product. Before using, user shall determine the suitability of the product for his intended use, and user assumes all risk and liability whatsoever in connection therewith.

Statements or recommendations not contained herein shall have no force or effect unless in an agreement signed by of cers of seller and manufacturer.

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