



**Custom-made**  
**collars and discs**  
for diffusion furnaces

**hiltex**  
semi-products

**Hiltex Semi-Products** has focused exclusively on the production of collars and discs for more than twenty years. Since the eighties, we've been a supplier to nearly all the major semiconductor producers and equipment manufacturers. Our products are simple to use and offer superior performance. They are easy to install and provide the best diffusion tube packing available.

Our collars and discs are custom fabricated. With the combination of high temperature textiles and non-ceramic insulation these products can be used with diffusion furnace process temperatures up to 1395°C (2543°F), with no loss of strength or flexibility.

**Product choices:**

Quartz collars and discs are made of 99.90% pure quartz fibre with very high strength, low thermal expansion and high elongation at the breaking point. Quartz collars and discs also have excellent resistance at high temperatures.

Quartz collars and discs are recommended for

temperatures up to 1050°C (1922°F).

ALF collars and discs are made of continuous alumina-silica fibre consisting of 70%  $Al_2O_3$  and 30%  $SiO_2$ .

These collars and discs retain their strength and flexibility after operation in high temperature environments. Because

they are boron-free

products, there is no risk of negative effects resulting from the release of gases, including boron. By comparison, some competitive products contain boron and are, therefore, unacceptable for semiconductor applications.

ALF collars and discs are recommended for temperatures up to 1395°C (2543°F). ALF collars and discs are made of 7 micron fibre to ensure superior flexibility.

**Product benefits:**

- High energy savings : heat is retained in the diffusion tube, where it belongs
- Smooth temperature profile : flattens and stabilises temperature profiles
- Reduced contamination : Hiltex collars and discs provide cleaner support than other forms of soft packing
- Reduced down time : collars and discs are quickly installed
- Long life : Hiltex collars and discs provide a guarantee of long-term dependability

### Insulation materials:

For the inner insulation of collars and discs Hiltex has developed 2 products.

- The max blanket is a product with a chemical composition of 65% SiO<sup>2</sup> and 35% Ca/MgO. The insulation blanket contains no aluminium oxide and retains excellent thermal insulation performance at temperatures up to 1200°C (2192°F).
- Our isofrax blanket is a product with a chemical composition of 75% SiO<sup>2</sup> and 25% MgO. Again, the insulation blanket contains no aluminium oxide. It retains excellent thermal insulation performance at temperatures up to 1260°C (2300°F)

---

### Safety and environment:

Quartz and ALF collars and disc products are considered to be environmentally friendly “green” products.

Quartz products are **NOT** silicate but silica fibres. Due to the fibre diameter and length, quartz is considered non-respirable. The product form is amorphous and is classified in group 3 according to the IARC Monograph; it is therefore **NOT** classified as dangerous. Quartz products are not listed under the EC Directive 97/69EC of December 5, 1997.

ALF products are produced from continuous fibre with a diameter of 7 microns. Because of the diameter and length of the fibres, ALF products are considered non-respirable as defined under the WHO Convention (IARC), and the fibres are outside the diameter range considered respirable under NIOSH standards and European Directive 97/69/EC.

MSDS sheets for all products are available.

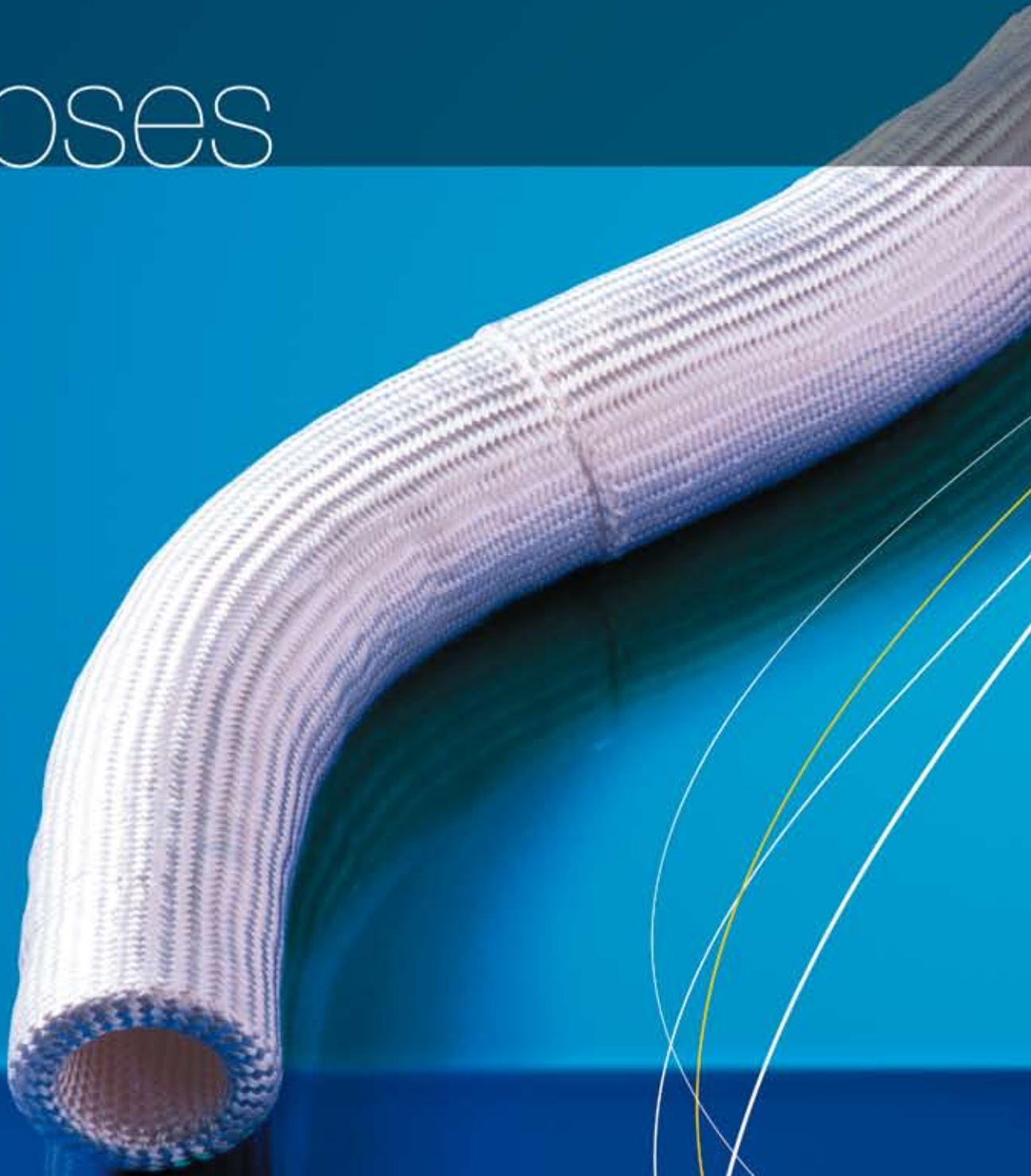
### Users:

Among the users of our products are major furnace and microchip manufacturers including ASM, ASMI Thermco division, Amtech Tempress, Tystar, Motorola, Hewlett Packard, Philips, Thompson, Opto, ATC, Panjit, Infineon, Texas Instruments and many others.

Hiltex Semi Products has a global network of agents and distributors. For further information you can contact us directly, or visit our webpage at: [www.hiltexsemi.com](http://www.hiltexsemi.com) to get the name and address of your local representative.



# Hoses





## Designed to work

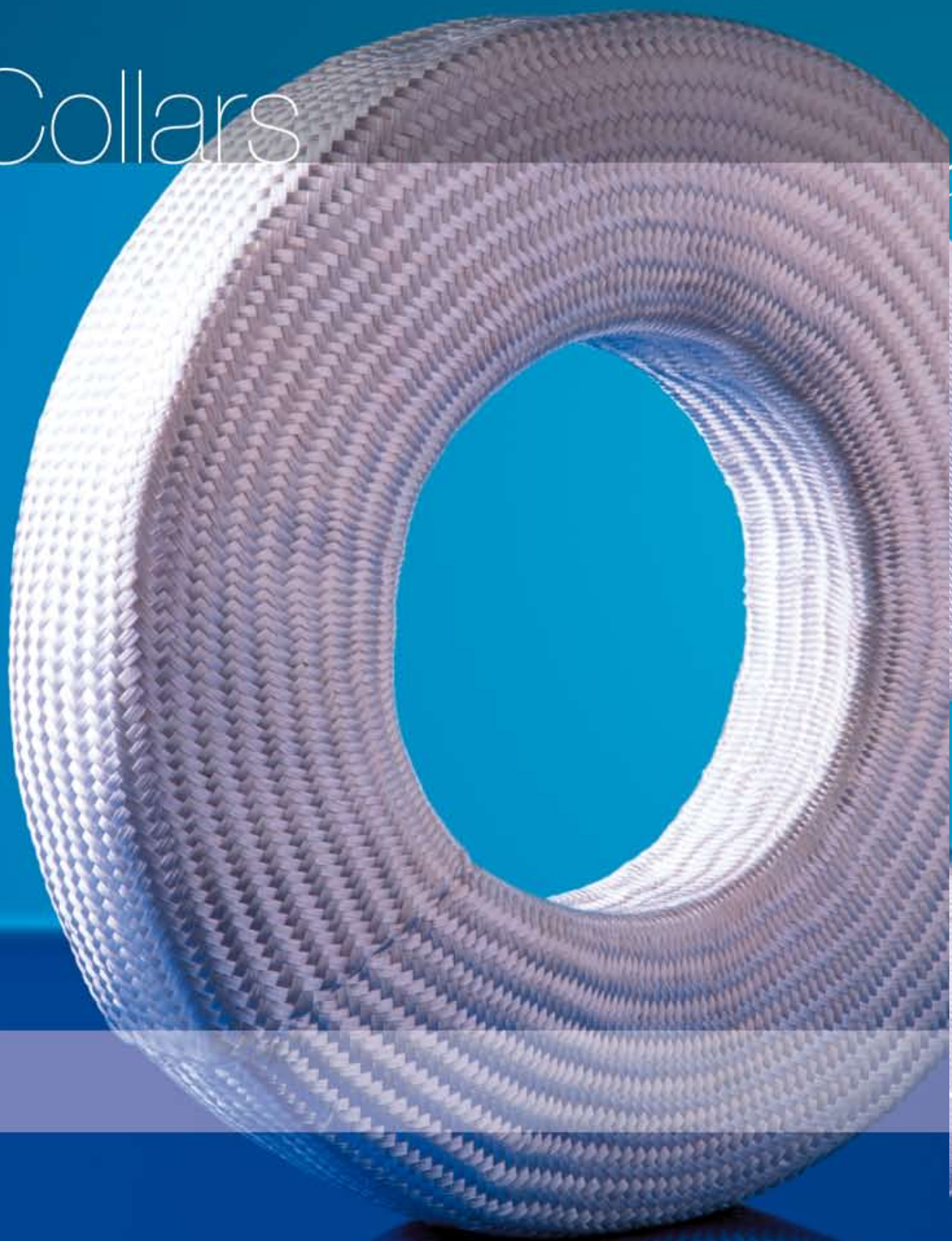
Hoses, rings and other forms, such as pads, are designed for demanding applications. Hiltex enables customers to optimize process tubes and connected accessories so that they are perfectly insulated, eliminating any risk that condensation can collect if the equipment is switched off. We can produce practically any form to meet your specific needs.

<b>Product choices</b>	ALF	1395°C (2543°F)
	Quartz	1050°C (1922°F)





# Collars



## High temperature operation

Temperature stability plays an important part in manufacturing processes and is the key to good quality control. Hiltex collars and discs have excellent dimensional stability, even at temperatures up to 1300°C, and also exhibit good resistance to thermal shocks (CTE: 0.54 ppm/°C).

What's more, their effective insulation properties make it possible to realise energy saving in excess of 12%.

Collars can be produced in various forms such as open or eccentric.

<b>Product choices</b>	ALF	1395°C (2543°F)
	Quartz	1050°C (1922°F)





# Collars



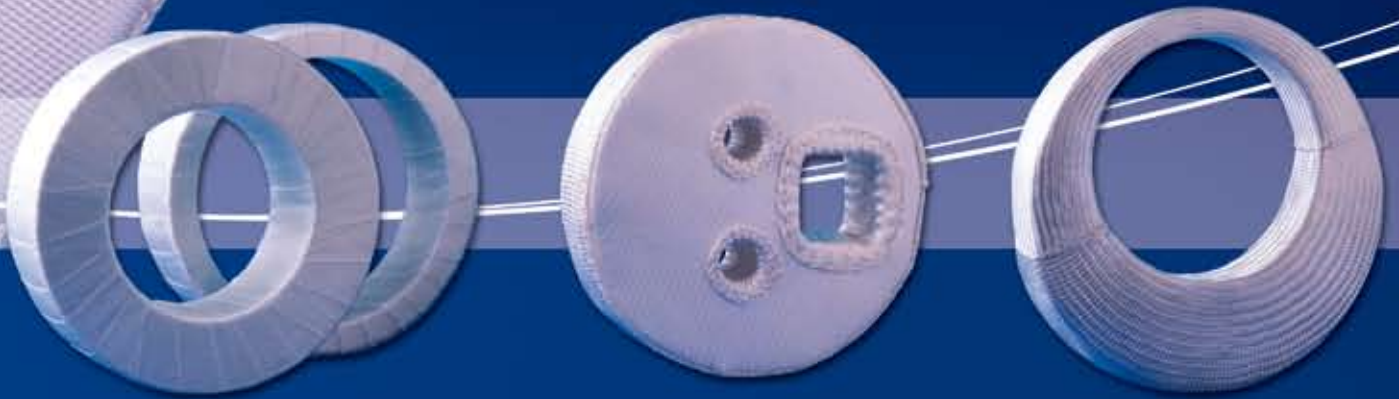




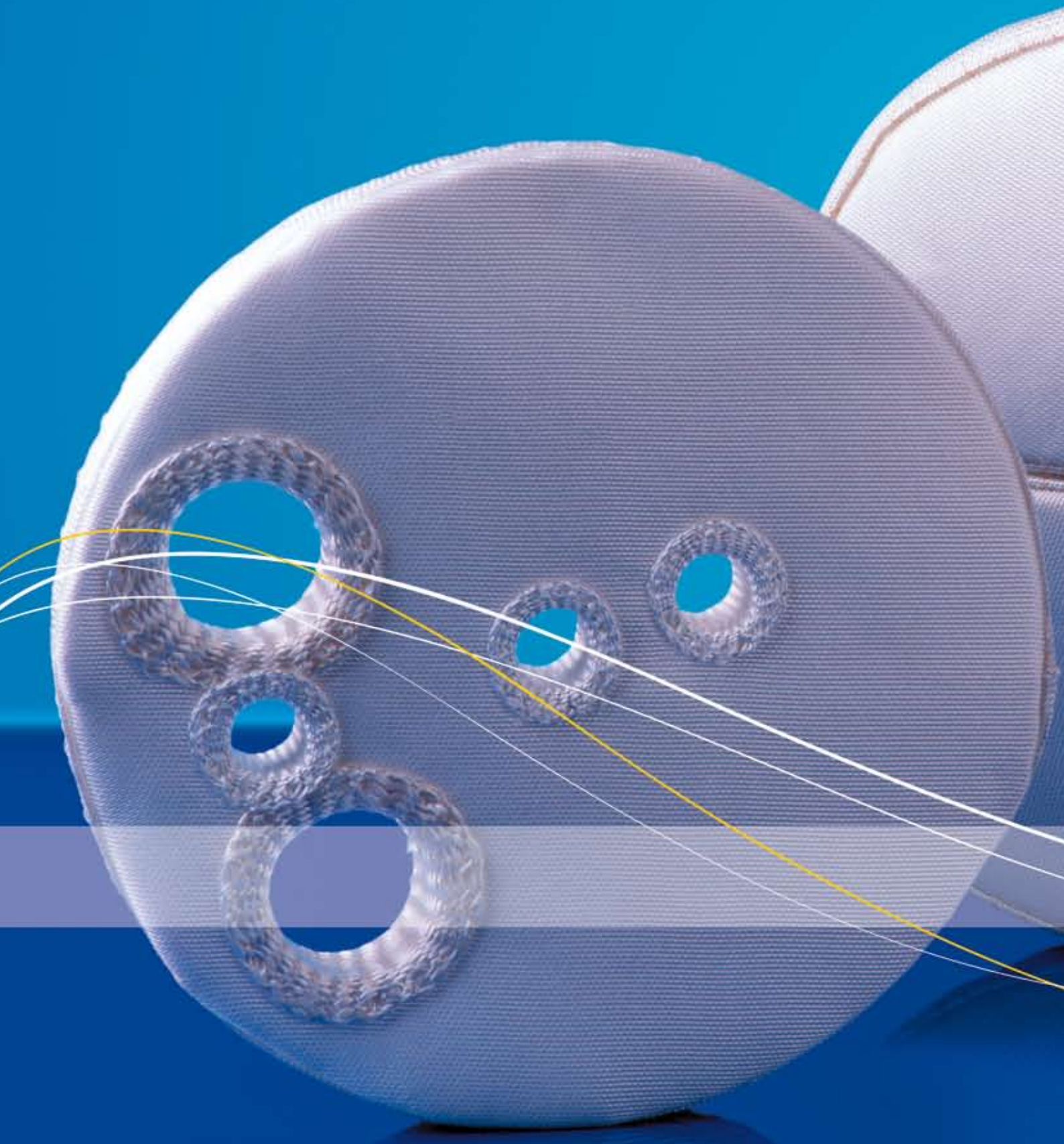
## Custom-made precision products

All Hiltex products are tailor-made to perfectly meet the specific needs of our customers. Hiltex collars and discs are available in all sizes and types, including eccentric and tapered collars, discs with extra or eccentric holes and  $1/2$  discs.

<b>Product choices</b>	ALF	1395°C (2543°F)
	Quartz	1050°C (1922°F)



# Discs







## **Ultra-pure products for perfect performance**

It's no secret that more and more companies are turning to Hiltex collars and discs. And it's hardly surprising either, when you consider Hiltex's reputation for meeting the very toughest quality standards. Discs can be produced with various forms such as 2 half segments and/or with different holes.

### **Product choices**

ALF	1395°C (2543°F)
Quartz	1050°C (1922°F)

## 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.

Sellers and manufacturers 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 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 of effect unless in a agreement signed by officers of seller and manufacturer.



P.O. Box 57 1566 AA Assendelft  
Dorpsstraat 43 1566 AL Assendelft  
The Netherlands  
Phone: (31) 75 687 10 90  
Fax: (31) 75 687 71 32  
Email: [hiltex@wxs.nl](mailto:hiltex@wxs.nl)

**For your local representative please see  
[www.hiltexsemi.com](http://www.hiltexsemi.com)**