

Glass fiber spinning  
Glass forming aprons

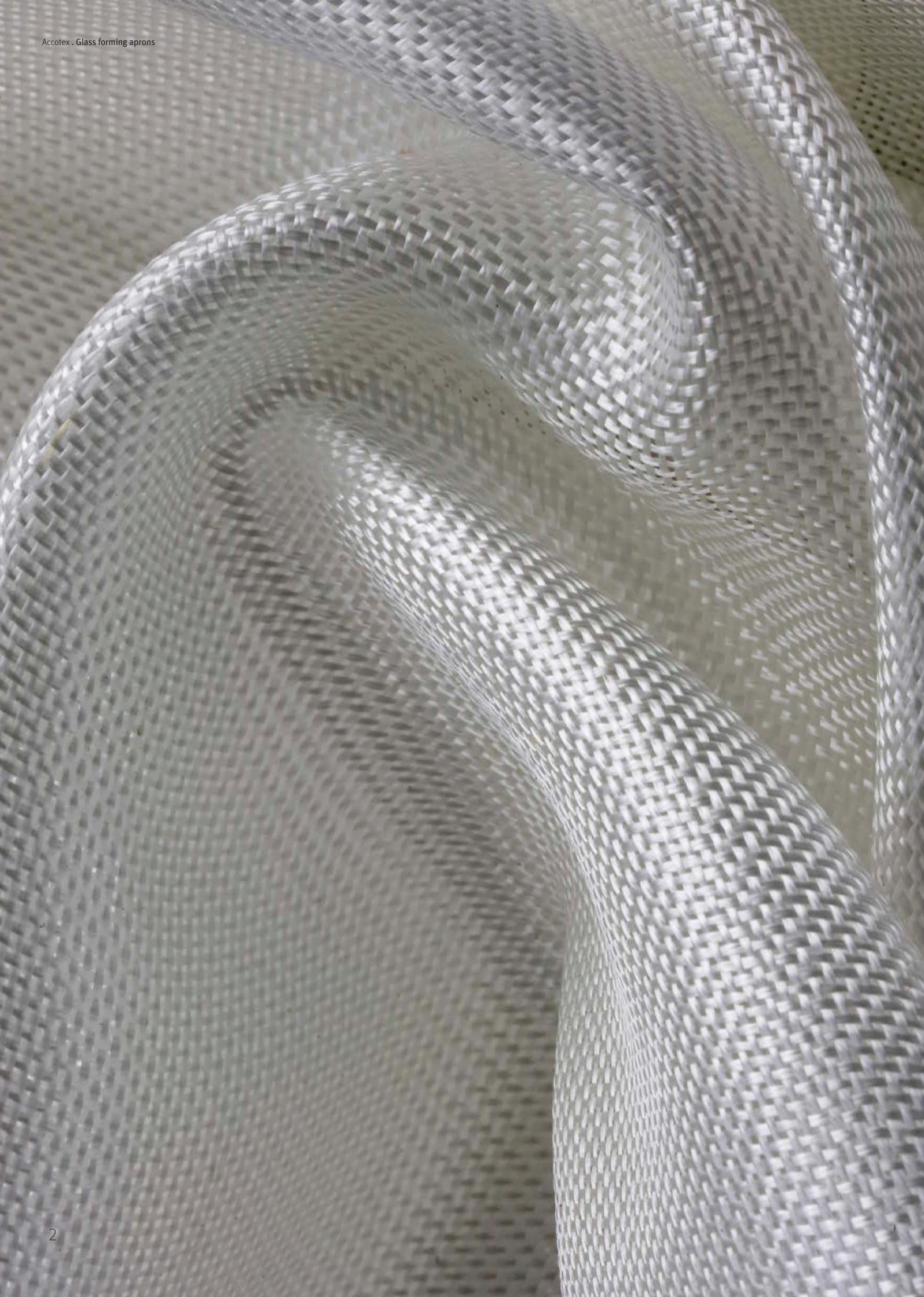
**Accotex**

# Glass Forming Aprons

New standards in sizing application



Coarse, fine, ultra-fine



# Elastomer Expertise

For more than 40 years Accotex Glass Forming Aprons have been a key component to the glass fibre industry.

Customers all over the world benefit from excellent wetting properties, durability and toughness of Accotex Glass Forming Aprons.

Experienced elastomer specialists and longstanding manufacturing expertise combined with a modern production environment ensure the constant product quality. Product development and all stages of production, from the mixing of rubber compounds to the final quality control, are made in Germany.

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# Glass Forming Aprons

## Optimal Sizing Transport Due to Perfect Wetting Characteristics

Forming Aprons for the production of glass fibers according to highest quality standards.



## 100% Made in Germany

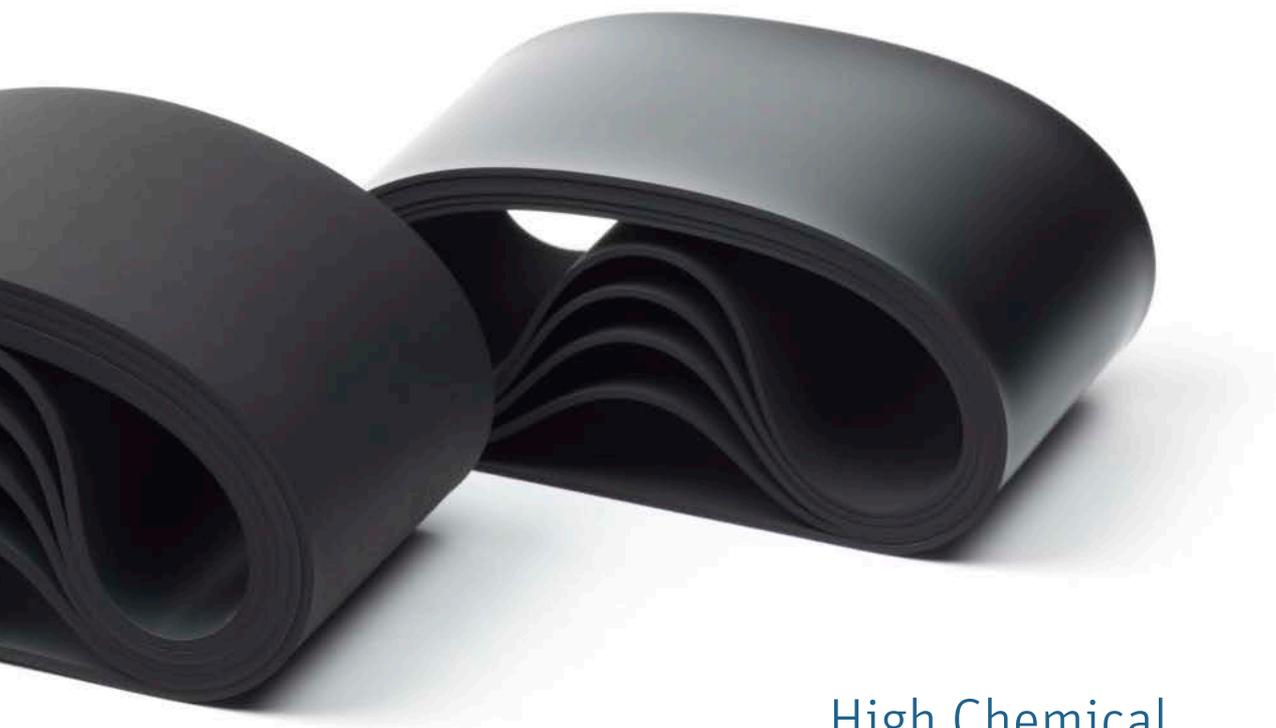
Key components to the glass fiber industry for more than 40 years

# OUTSTANDING

## ADVANTAGES

### Homogeneous Surface Roughness; Available in Different Ranges

Covering the whole spectrum of glass fiber yarns,  
from coars to ultra-fine filaments



### High Chemical Resistance

Special rubber compounds enable  
the use of the aprons in special  
applications in glass fiber processing

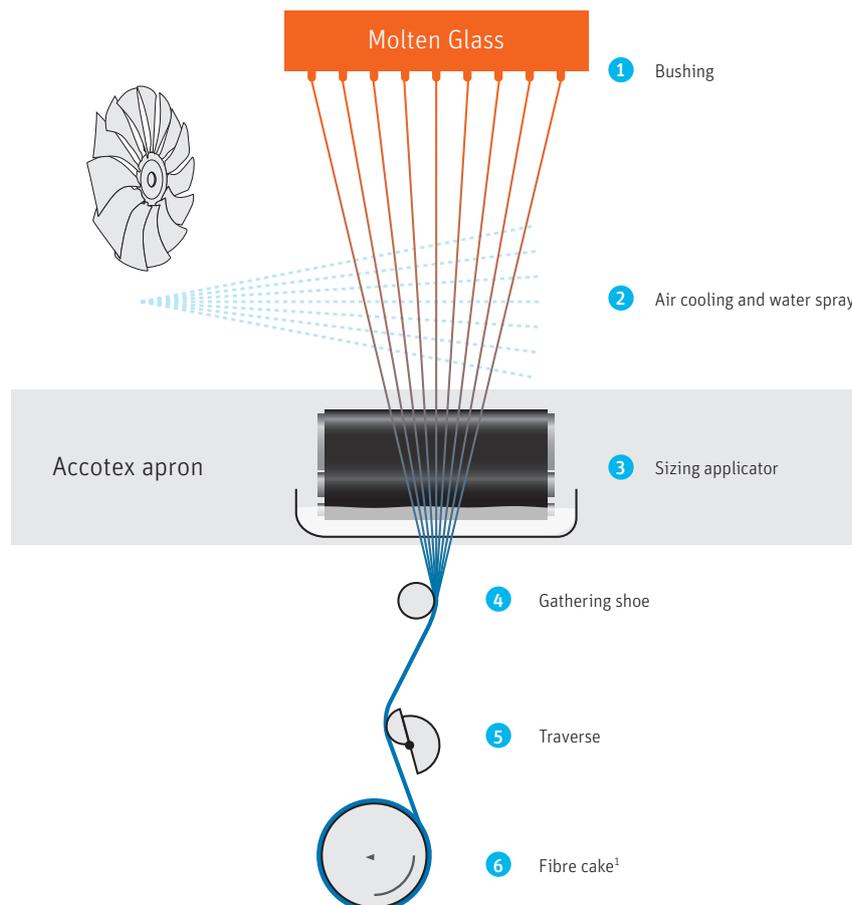
### Long Lifetime

The best quality for the best results  
and for a long time

# Manufacturing of Continuous Glass Fibres

**The basic function of a glass forming apron in the glass fibre manufacturing process is to transport the sizing from the sizing reservoir to the glass fibre filaments.**

In the first step of the manufacturing process, the raw materials are melted in a furnace. On exiting the bushing, the molten glass is rapidly cooled by air and water and quenched to form fine glass fibre filaments with a diameter of several microns. Within milliseconds, the filaments pass the sizing applicator, which is equipped with the rubber apron, and are coated with sizing. The fibres are subsequently brought together to a strand by a gathering shoe and are wound up at high speed to a fibre cake. The whole process is extremely fast and takes less than one second.



<sup>1</sup> The quenching from the molten glass with temperatures of about 1 500 °C down to 80 °C in the cooling area and approx. 25 °C during sizing takes place in less than 0.03 seconds over a distance between 1.5 to 1.8 meters.

<sup>2</sup> With winding speeds up to 3 800 m/min.



# Glass Forming Aprons

**Accotex Glass Forming Aprons are tailor-made to match customer requirements. The aprons combine perfect wetting characteristics with exceptional lifetime due to high valued elastomers along with an optimized surface finish.**

The characteristics of the glass forming apron directly affects the quality of the sizing transport. As a result, the glass forming apron has major impact on most quality relevant parameters of the filament:

- Loss on ignition (LOI)
- Dancing fibres
- Hairiness



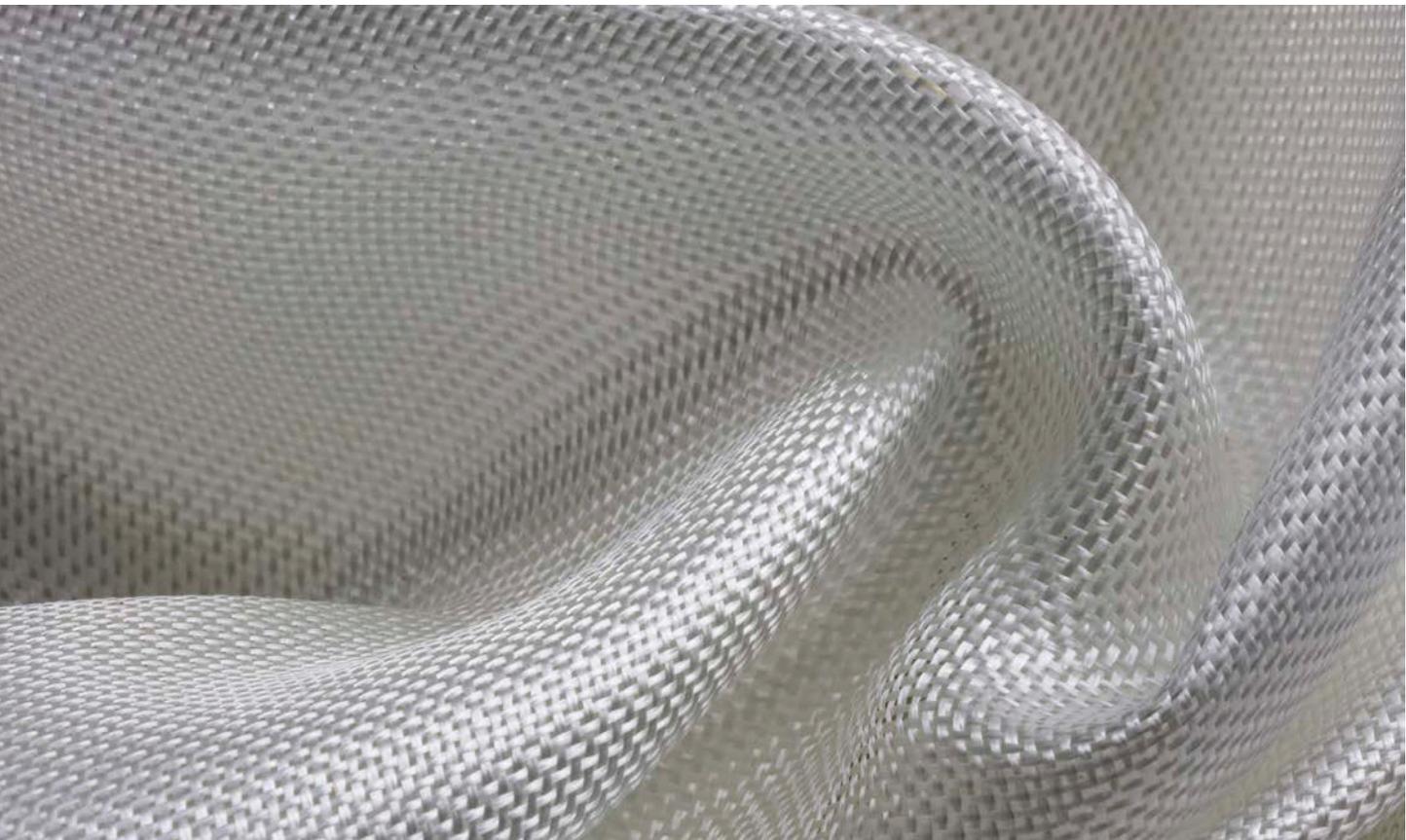
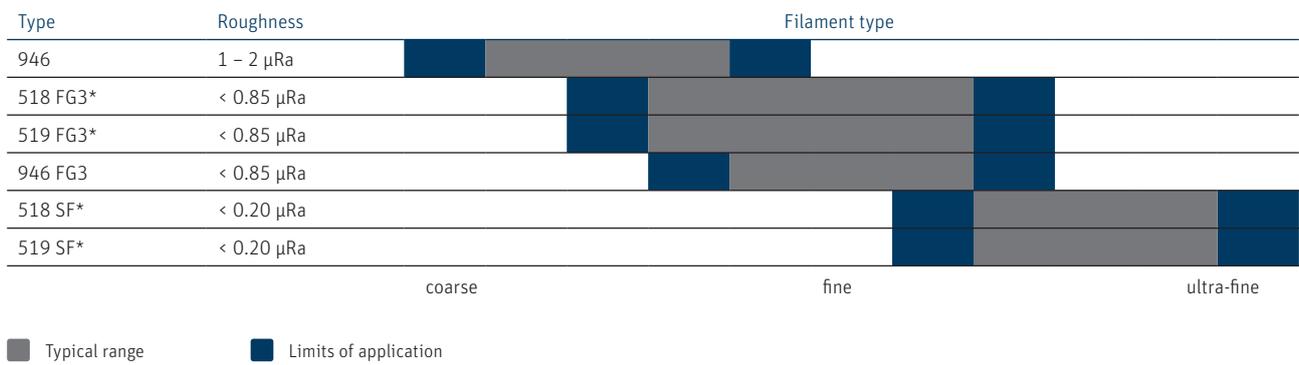
Accotex GFA 946 FG3



# Product Range

The range is designed to meet the demands of the glass fibre yarn industry. Accotex offers apron solutions, covering the whole spectrum of glass fibre yarns, from coarse (G type) to ultra-fine filaments (D – BC type). In close cooperation with our customers, we have developed a product range with optimal characteristics for each individual application.

## Range of applications





## Coarse filaments

**Accotex 946**  
(roughness 1 – 2  $\mu\text{Ra}$ )

- High abrasion resistance
  - Especially important for coarse fibre counts, because the filament tension on the apron is much higher.
- Excellent wetting behaviour
  - Due to its special elastomer composition the apron insures uniform



## Fine filaments

**Accotex 946 FG3, 518 FG3, 519 FG3**  
(roughness < 0.85  $\mu\text{Ra}$ )

- Universality
  - The all purpose aprons are applicable for a wide spectrum of filament types.
- Individual surface polarity
  - Excellent wetting properties with different sizing due to customised material composition.



## Ultra-fine filaments

**Accotex 518 SF, 519 SF**  
(roughness < 0.2  $\mu\text{Ra}$ )

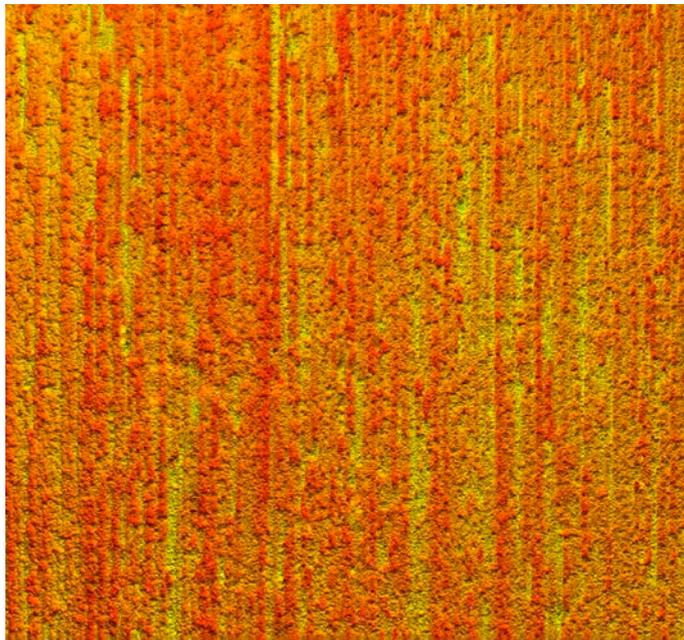
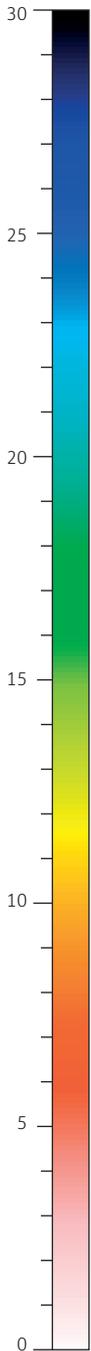
- Additional prevention of dancing fibres and hairiness due to extraordinary low surface roughness
- Excellent binder pickup owing to a special chemical composition
- Sufficient sizing transport results in properly coated filaments.

# Product Properties

To comply with all conditions of a wide spectrum of glass filaments, Accotex provides glass forming aprons offered in a variety of material compositions and surface roughnesses.

## 946 Coarse filaments

µm



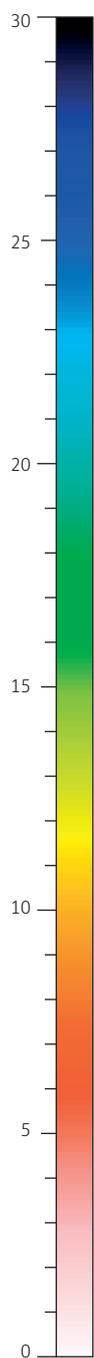
- High abrasion resistance
- Homogeneous surface with vertical structure
- Low contact angel\*

Surface profile and microscope picture

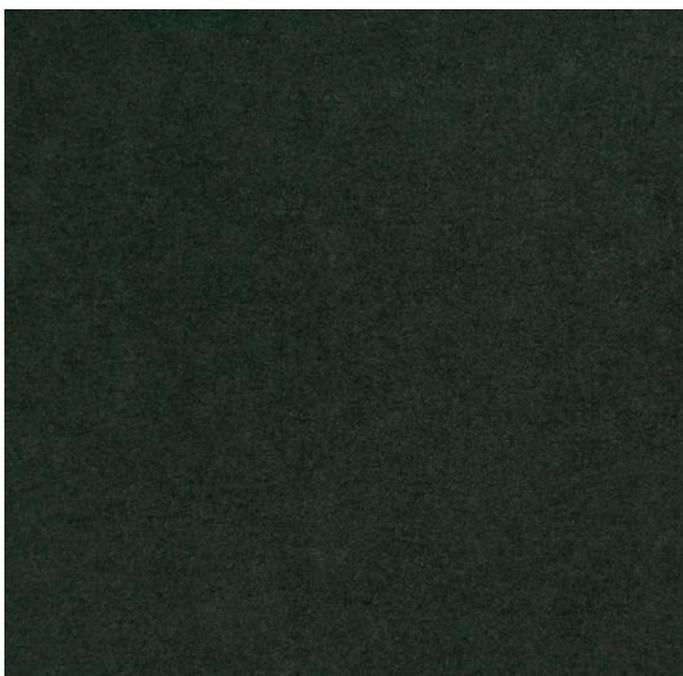
\* against water

## 946 FG3 Fine filaments

μm



- High abrasion resistance
- Homogeneous surface structure
- Low contact angle\*

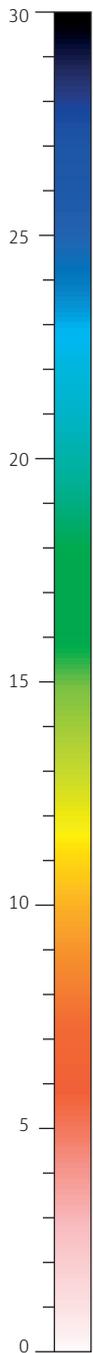


Surface profile and microscope picture

\* against water

## 518 FG3 Coarse to fine filaments

µm



- Low dancing fibre
- General suitability for different sizing systems
- Homogeneous surface with horizontal structure
- Good grindability



Surface profile and microscope picture

## 518 SF Ultra-fine filaments

µm

30

25

20

15

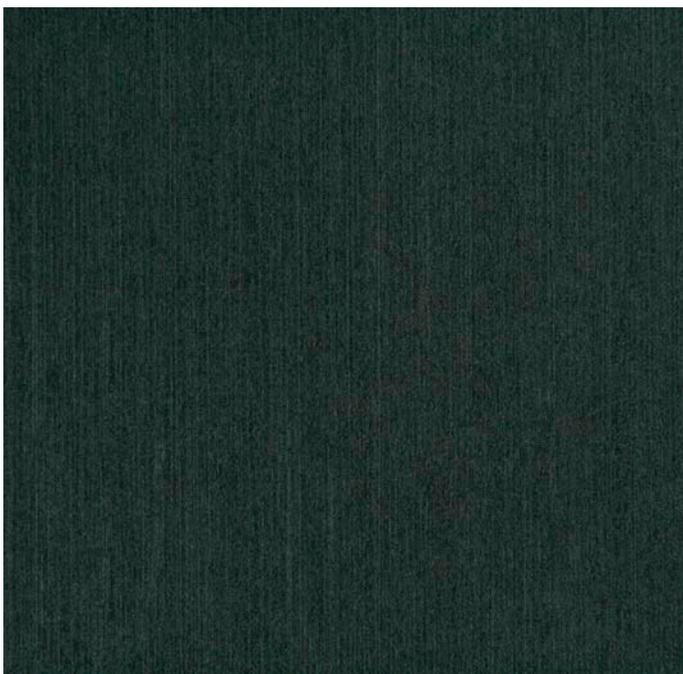
10

5

0



- Minimum moving fibres
- Ultra smooth surface
- General suitability for different sizing systems



Surface profile and microscope picture

## 519 FG3 Coarse to fine filaments

µm

30

25

20

15

10

5

0



- Medium abrasion resistance
- Homogeneous surface with horizontal structure
- Low dancing fibres



Surface profile and microscope picture

## 519 SF Ultra-fine filaments

µm

30

25

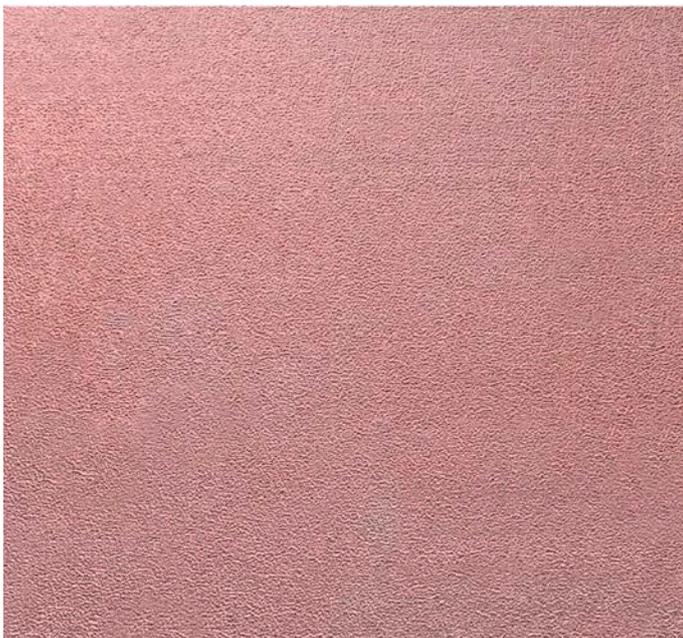
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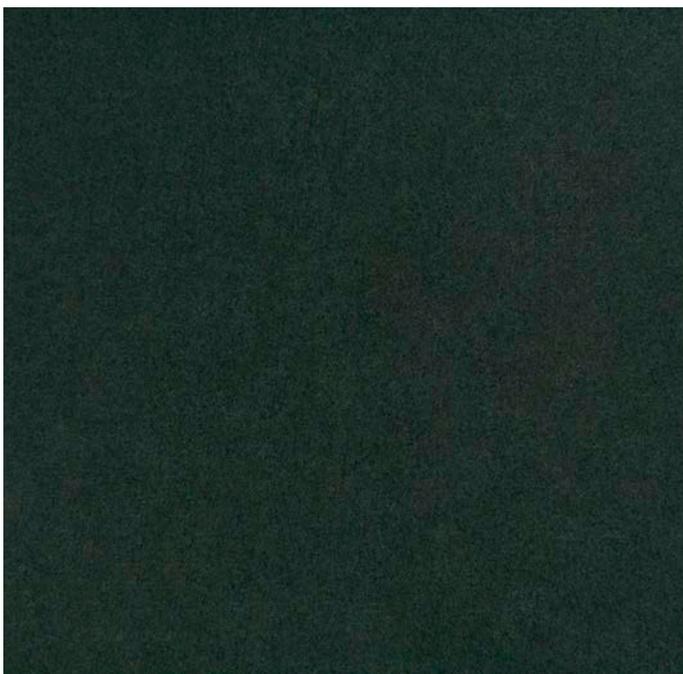
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5

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- Medium abrasion resistance
- Ultra smooth surface
- Minimum moving fibres



Surface profile and microscope picture

# Customized Solutions

**Accotex Glass Forming Aprons are tailor-made to match customer requirements. The aprons combine perfect wetting characteristics with exceptional lifetime due to high valued elastomers along with an optimized surface finish.**

The characteristics of the glass forming apron directly affects the quality of the sizing transport. As a result, the glass forming apron has major impact on most quality relevant parameters of the filament:

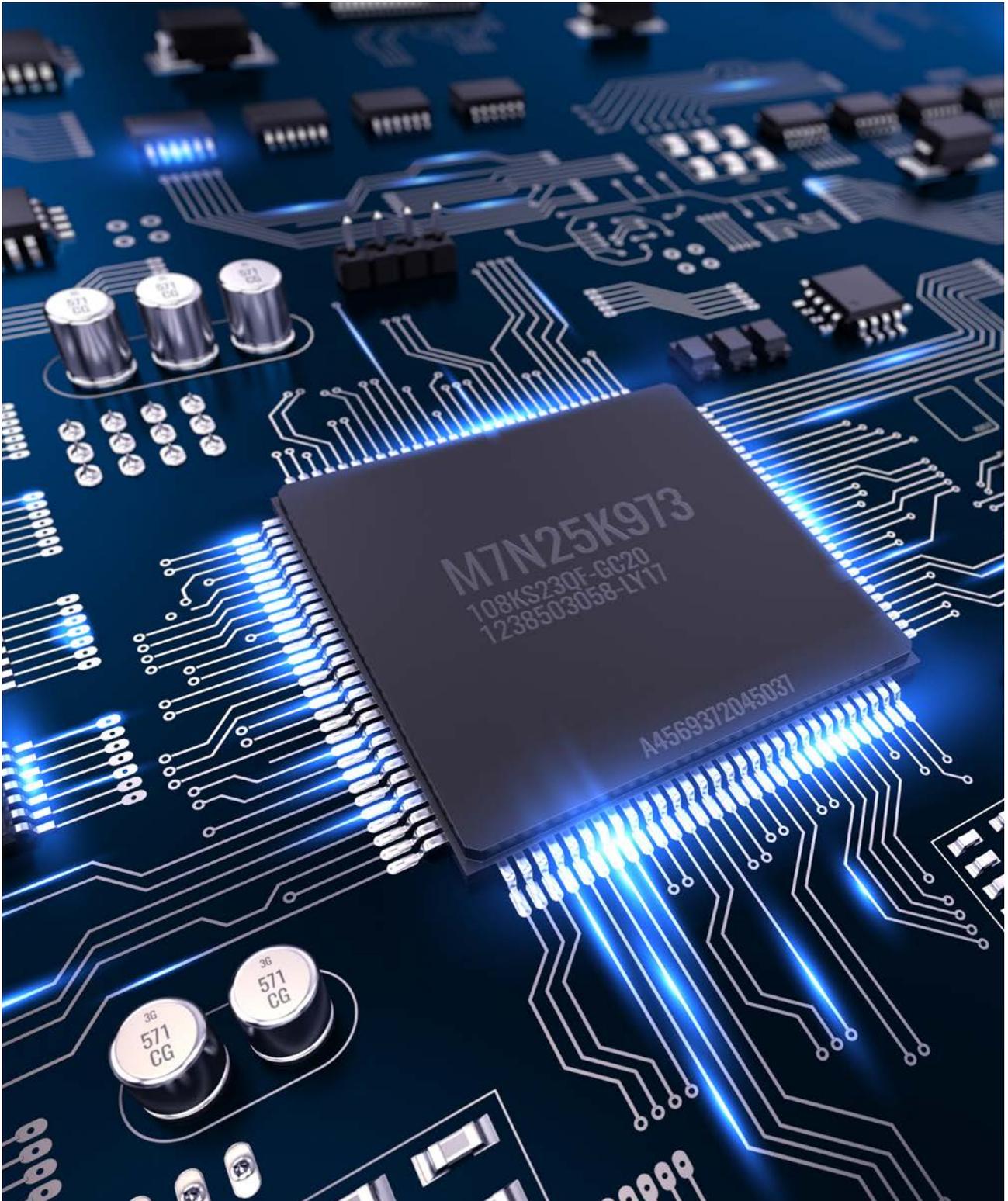
- Loss on ignition (LOI)
- Dancing fibres
- Hairiness

**Comparison chart based on perspective applications**

Product	Grindability	Abrasion resistance	Contact angle (new)	Contact angle (reground)
946	●●	●●●	●	●●
946 FG3	●●	●●●	●	●●
518 FG3	●●●	●	●●	●●●
519 FG3	●●	●●	●	●●
518 SF	n.a	●	●●●	n.a.
519 SF	n.a.	●●	●	n.a.

●●● High      ●● Medium      ● Low

\* Additional product differentiation: depending on the sizing formulation.



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