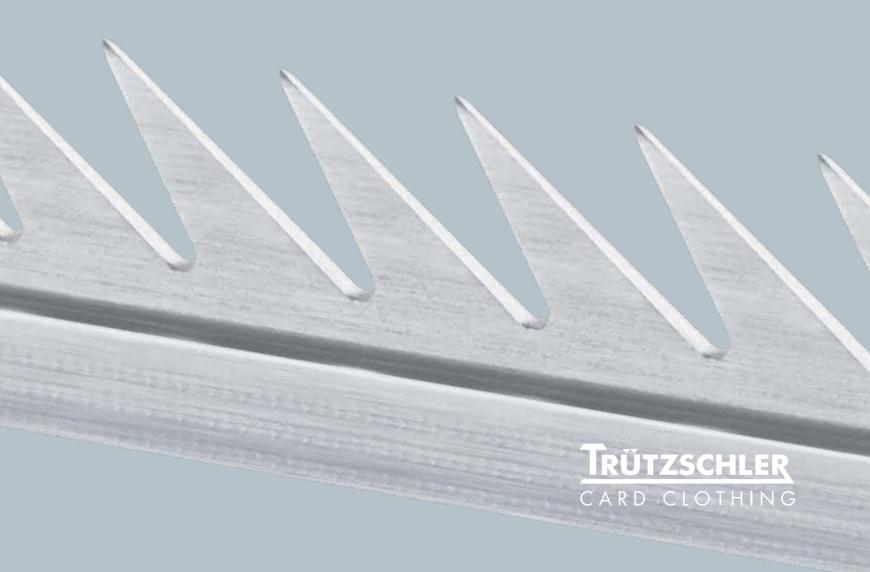
CARD CLOTHING



EXPERIENCE

60 YEARS OF CLOTHING DEVELOPMENT | TRÜTZSCHLER GROUP NETWORK | 3,000 EMPLOYEES

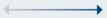
Trützschler Card Clothing is part of the global network of the Trützschler group, with some 3,000 employees. This is where the development teams for cards, roller cards and clothings work closely together in order to finetune machine technology and clothings perfectly to one another. This is the way to ensure that the card or roller card and clothing form an unbeatable unit.

At the Trützschler technical centre in Mönchengladbach we have the means to investigate the influences of clothings on carding quality, precisely and under controlled conditions, like nowhere else. The knowledge gained and our 60 years plus of experience in the card clothing business thus directly benefit the clothing development process.

Product and knowledge transfer within the Trützschler group:

Trützschler Spinning

Trützschler Card Clothing



Trützschler Nonwovens

Our experienced employees are experts who use their knowledge for practical innovations.



SERVICE

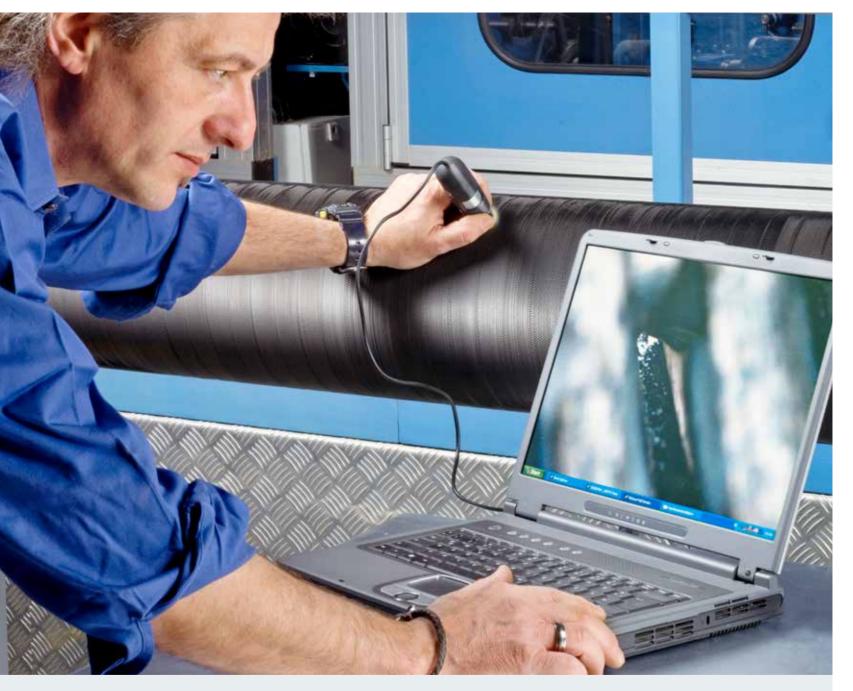
200 SERVICE EMPLOYEES | DEPLOYMENT ON-SITE | STATE-OF-THE-ART DIAGNOSTICS TECHNOLOGY

For decades TCC has been providing locally organised, customer-oriented service – and this service network is continuously expanding. This ensures that contact can be established worldwide, regardless of time zones and in the respective national languages. The collective knowledge of around 200 service employees throughout the globe covers clothings, cards and roller cards. Know-how not only on the latest card technology but also on machines that are already decades old.

This ensures the professional fitting of the clothing and that we are also quickly on-site if a fault should occur. We use state-of-the-art diagnostics technology in order on investigate every detail meticulously.

Our range of services is ideally tailored to the needs of our customers:

- One-off visit from a service technician to perform troubleshooting
- Regular visits from the service technician for maintenance contract work
- Close supervision and tailor-made clothing management



Global availability of service expertise:

Bangladesh Brazil China Colombia Czech Republic France Germany India Indonesia Iran Italy Mexico Pakistan Peru Poland South-Africa Spain Thailand Turkey USA Uzbekistan Vietnam



HIGHLY INTEGRATED PROCESSES | ONLINE CONTROL | CONSTANT QUALITY

The excellent quality of TCC clothings sets global standards. From the first to the last production step, production lines and hardness measurements are subjected to permanent online control. The quality consistency which this achieves is unmatched in the field.

Our customers use TCC clothings in their own production to ensure that the desired quality is achieved at all times: Whether for the production of yarns or webs, you can always rely on our products, even at high production speeds.

TCC's development, the T-Winder, with its decoupled clothing guidance, means all clothing thicknesses and types can be fitted with a constant winding force.



DEVELOPMENT

POOLED KNOWLEDGE | IDEAL MARKET SOLUTIONS | MAGNOTOP FLATS SYSTEM

Within the Trützschler network we cultivate a close exchange so that even specialist knowledge – whether it be of certain applications or exotic card types – can be drawn upon at all times. This comprehensive knowledge flows directly into the constant further development of clothings in order to be able to present timely solutions for changes on the market or regarding raw materials. For us, clothing specifications which are tailored exactly to specific customer parameters and thus ensure the optimum running performance of the installation, are a matter of course.

The MAGNOTOP flats system which features clothing strips secured to the flat bars using magnet technology, is a further result of intensive cooperation. This technology allows the flats clothings to be replaced directly on the card in a simple and time-saving manner.



The clothing strip on the MAGNOTOP flats system is attached precisely and securely to the flat bar by ultra-strong magnets.

BASIC TO HIGH-END PRODUCTS | PROCESS-ORIENTED SPECIAL DEVELOPMENTS

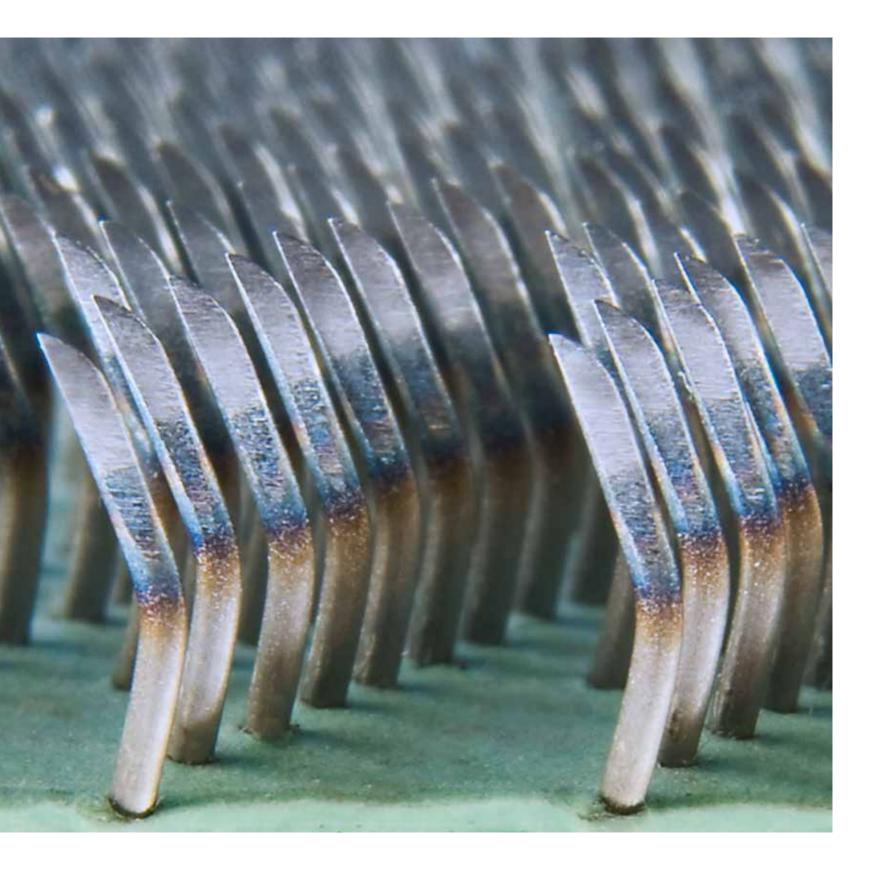
The Trützschler Card Clothing range of products covers everything from basic components to high-end solutions for premium products. This applies to both standard applications and rare and very special requirements.

We supply specifically tailored clothing types for each roll based on the machine type, the raw material being processed, the production speed and further processing parameters. They differ with regard to the tooth contour and the profile cross section, the structure or the surface treatment.









PRODUCTION

HIGH-PERFORMANCE CLOTHINGS

The licker-in and cylinder clothings and carding segments in modern high-performance cards are subjected to disproportional strains. Our solution: NOVOSTAR high-performance clothings, made from special alloyed steel, guaranteeing excellent quality with a long service life even with very high card outputs.

Strict tolerances for individual alloy components and production accuracy mean that newly fitted clothings do not need to be ground which in turn extends maintenance intervals and the service life of the clothing considerably. Depending on the application, improvements can reach around 50–70% or more.

NOVOSTAR FULL STEEL CLOTHINGS STAND FOR

- A service life up to more than 1,200 tonnes
- Considerably reduced maintenance effort
- Increased value added
- Improved yarn quality
- Shorter running-in period
- Optimum nep reduction



Example: € 4,400 clothing costs savings per year



TECHNOLOGIES

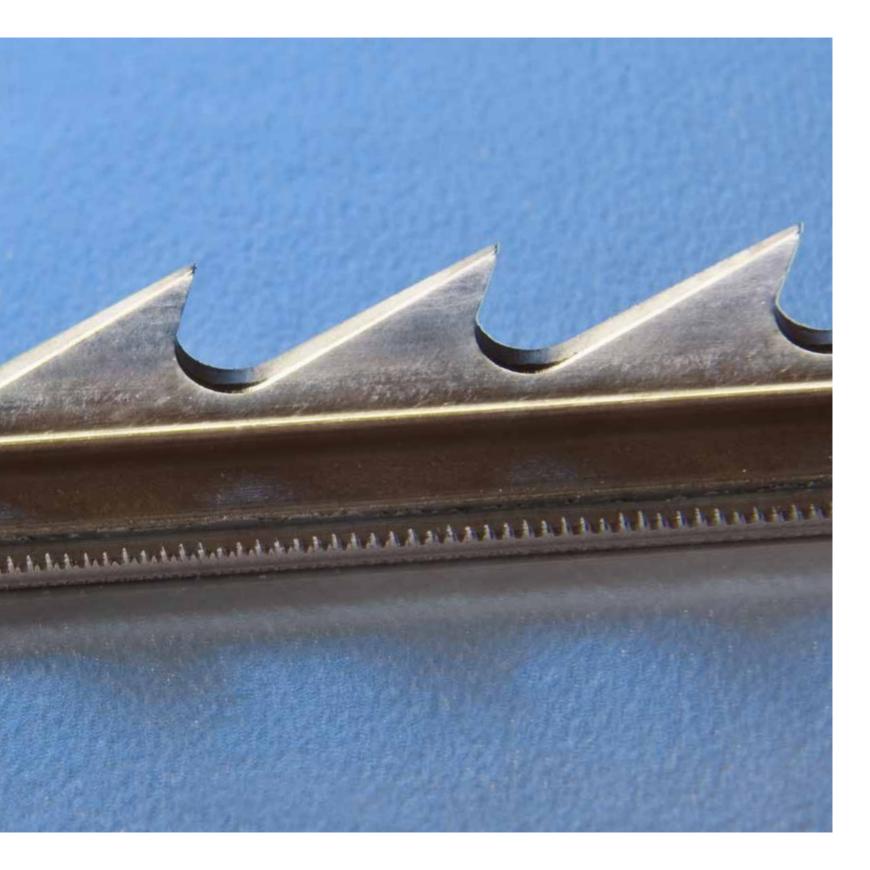
SURFACE TREATMENT

With conventional hardening processes, scale forms on the surface of the clothings and has to be removed in an additional mechanical process. However, this can lead to damage to the surface.

With our in-house developed procedure we achieve a special scale-free surface quality which prevents sticking of foreign parts and fibre damage.

WE SUPPLY CLOTHINGS WITH SPECIAL SURFACE TREATMENTS FOR OPENING ROLLS FOR ALL MACHINE TYPES

- Standard
- Brushed "B"
- Chemically polished "C"



FLAT TOPS

NOVOTOP - THE SUM OF PERFECT DETAILS

Our semi-flexible premium NOVOTOP flats clothings were specifically developed for high-performance cards in order to prevent damaging fibres and thus fully utilise the raw materials despite a high-level of carding forces.

NOVOTOP FLATS CLOTHINGS STAND FOR

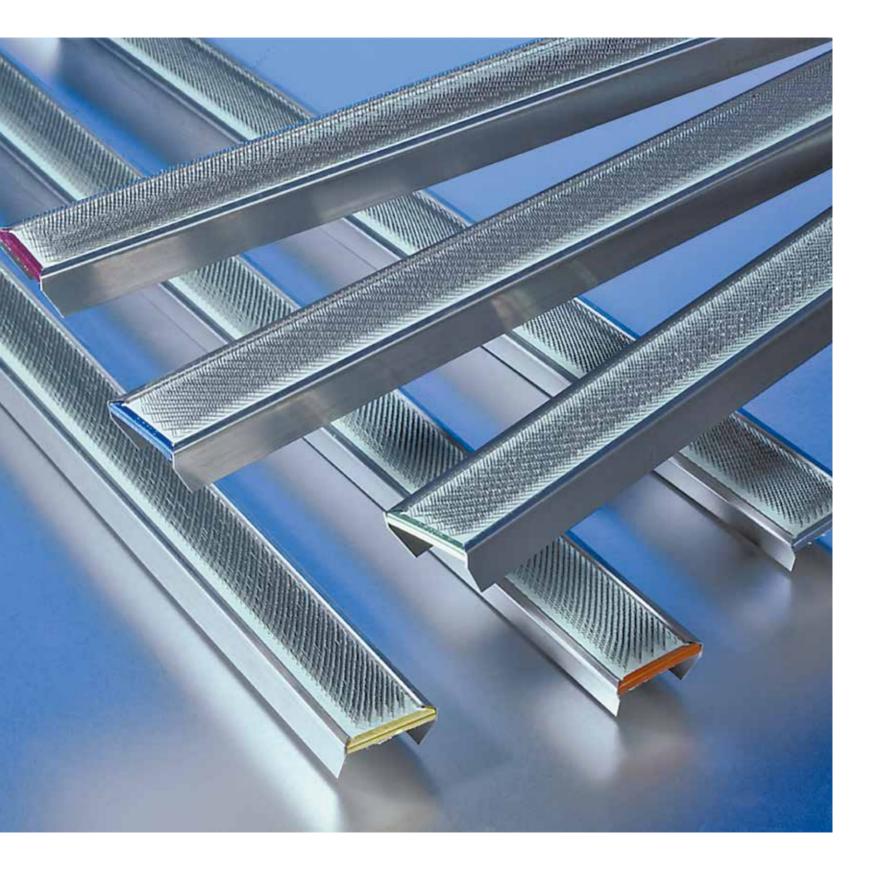
- High card outputs
- Improvement of yarn quality
- Increased service life
- Reduced maintenance expenditure
- Higher efficiency through better raw material utilisation

COTTON

Туре	Colour clips	Raw material	Application	Yarn (Ne)
NOVOTOP 60®	titanium	extra long	combed	>Ne60
NOVOTOP 58®	brown	long, medium	carded & combed	≥Ne30
NOVOTOP 55®	golden	medium	carded & combed	<ne40< th=""></ne40<>
NOVOTOP 45®	red	medium, coarse	carded & OE	<ne20< th=""></ne20<>
NOVOTOP 40®	blue	coarse, blends	OE	<ne20< th=""></ne20<>
NOVOTOP 30®	black	coarse, blends coloured fibres	OE	<ne10< th=""></ne10<>

MAN-MADE FIBRES (PES, VISCOSE ETC.)

Туре	Colour clips	Raw material	Application	Yarn (Ne)	
NOVOTOP 45®	red	MMF 100% Vi, blends, swing	OE, ring	< 1.3 dtex	
NOVOTOP 40®	blue	universal, regenerates	OE, ring	-	
NOVOTOP 405®	green	MMF	OE, ring	1.3-1.7 dtex	
NOVOTOP 335®	purple	MMF bleached cotton/Vi	OE, hygiene	> 1.7 dtex	



CARDING SEGMENTS

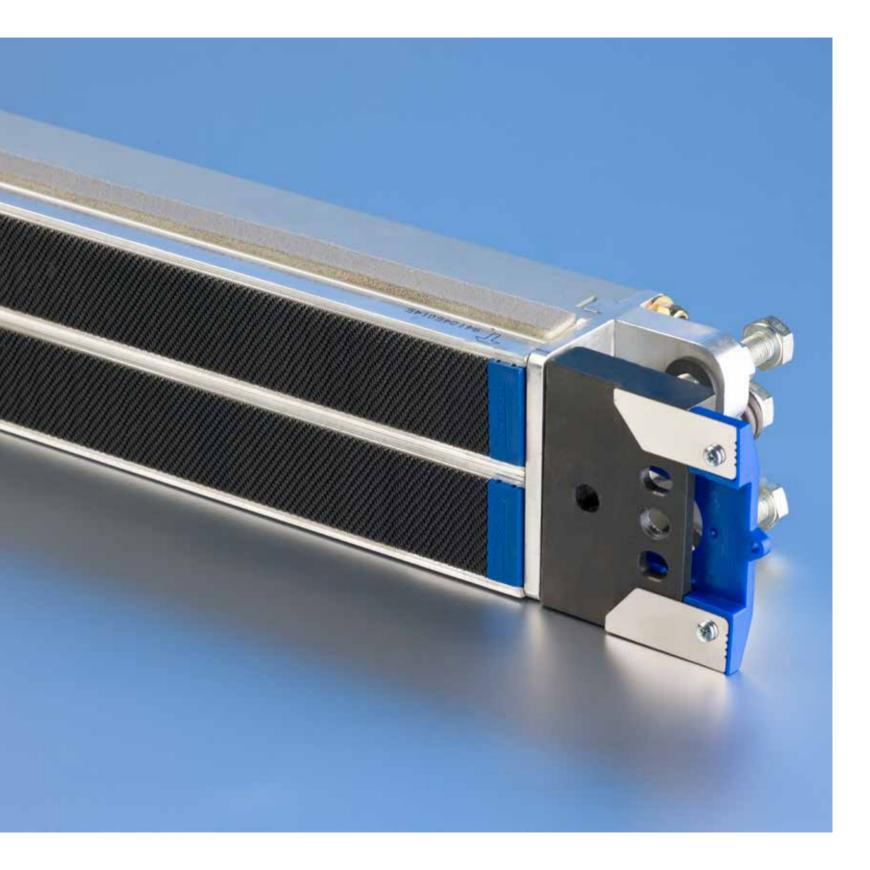
NOVOFIX - QUALITY WITHOUT COMPROMISE

The highest carding forces and thus the highest level of clothing wear occurs on the carding segments, in particular in the pre-carding area. That's why we only produce our NOVOFIX carding segments from special steel with NOVOSTAR quality.

Elaborate machining of the rear sides of the wire carriers is used in order to adhere to the strictest of tolerances and achieve the maximum service life for our carding segments. This procedure means that the process of grinding clothing tips is unnecessary.

NOVOFIX CARDING SEGMENTS STAND FOR

- Optimum and even adjustability of carding segments across the entire working width
- Optimum cleaning from the very beginning



FLATS SYSTEM

MAGNOTOP - SIMPLY MORE ACCURATE

Our MAGNOTOP flats system which is supplied exclusively for Trützschler cards, features clothing strips which are secured to the flat bars using magnet technology. This allows the flats clothings to be replaced directly on the card in a simple and time-saving manner.

The extremely strict tolerances between the individual flat bars make for a high yarn quality. This is achieved using adhesive and compensation layers on each individual flat bar and renders equalisation grinding unnecessary.

MAGNOTOP PROVIDES IMPROVED EFFICIENCY

- No investments for a flats workshop
- · Reserve flat top sets not necessary
- No service costs for re-clothing
- No transport costs



Depending on wage costs, savings of around € 200 – € 800 can be made per re-clothing procedure and per card when using MAGNOTOP. This adds up to considerable annual amounts.



CARDING PLATES

CARDMASTER - ADAPTED TO PERFECTION

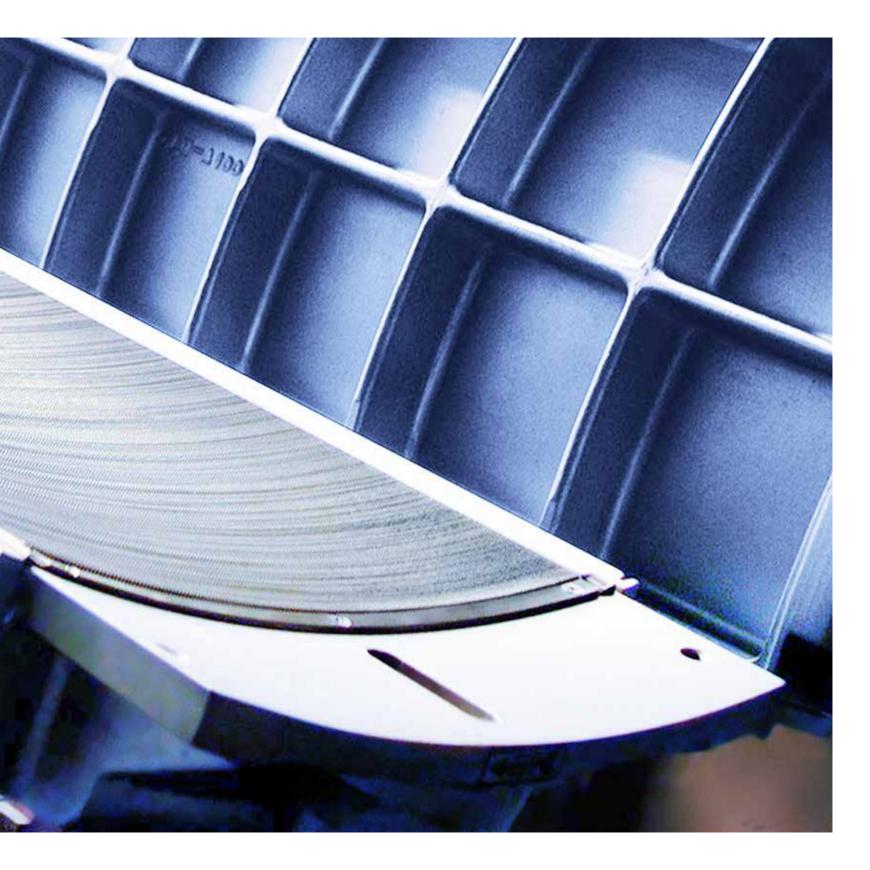
Some high-performance web formers require special carding elements which form a closed system together with the turbo rolls in use. This is where our CARDMASTER plates come into play as they are ideally suited to this type of carding.

The CARDMASTER plates consist of fixed carding plates with special metallic wires fitted to the inside. The aluminium plates, which are adapted in shape to the cylinder, provide a significantly greater carding area than revolving worker or stripper rolls.

It is also possible to retrofit them to installations with a width of up to 4.5 m, meaning that even existing installations can be modified.

CARDMASTER PLATES STAND FOR

- Maximum carding area
- Improved carding quality
- Higher production rates
- Easy installation due to modified components





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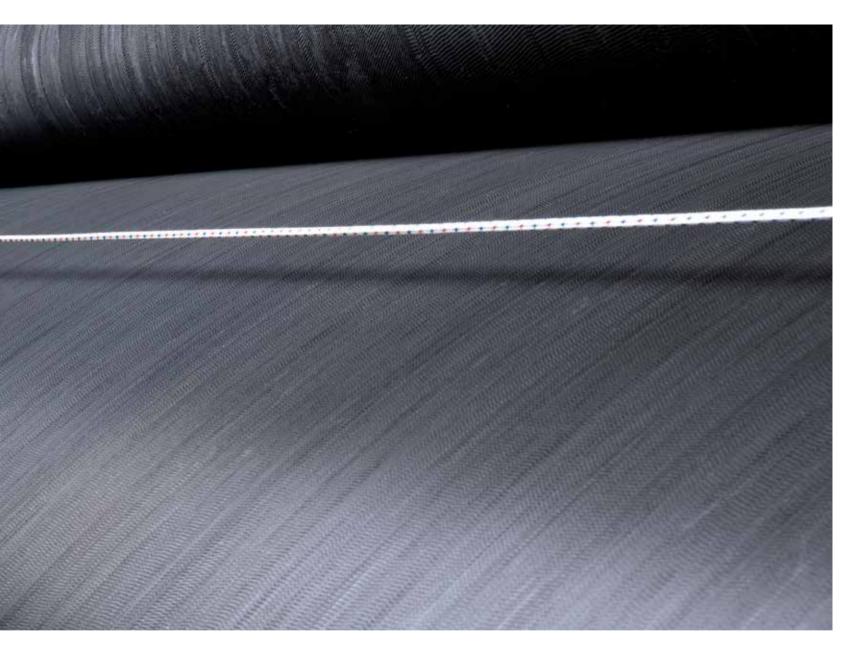








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GETTING FIBERS INTO SHAPE - SINCE 1888

TRÜTZSCHLER S P I N N I N G

Fiber preparation installations: Bale openers · Mixers · Cleaners/Openers
Foreign Part Separators · Dust separators · Tuft blenders
Waste cleaners | Cards | Draw frames | Combing machines

TRÜTZSCHLER NONWOVENS

Openers/Mixers | Card feeders | Cards/Crosslappers | Wet laying lines | Needling machines
Hydro entanglement | Chemical and thermal bonding lines
Finishing lines Dryers | Heatsetting | Winding | Slitting

TRÜTZSCHLER MAN-MADE FIBERS

Staple tiber lines | Filament lines: Carpet yarns (BCF) · Technical yarns

TRÜTZSCHLER CARD CLOTHING

Metallic wires: Cards · Cards long staple · Cards nonwovens · Open-end spinning

Flat tops | Fillets

Cardina seaments | Service machines | Service 24/7

www.truetzschler.com