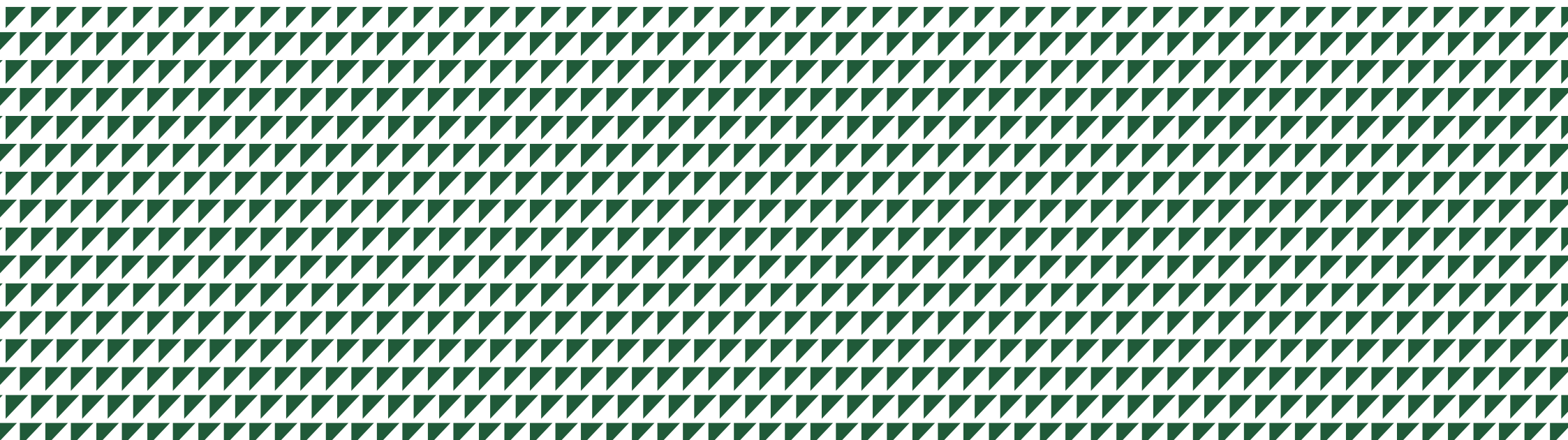


# Carding

Products and services for the carding process







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## Tradition and Future

**Groz-Beckert was founded in 1852 and is active in over 150 countries today with around 7,700 employees. Whether for knitting, weaving, felting, tufting, carding or sewing: Our total product portfolio contains over 70,000 products. As a leading supplier of industrial machine needles, precision parts, precision tools, systems and services for a wide range of textile production and joining methods, Groz-Beckert supports its customers and partners within the textile value chain – and beyond: The Technology and Development Center (TEZ) is a pioneering platform with which Groz-Beckert has been shaping the future of the textile industry together with machine manufacturers, end users, textile producers and institutes since July 2010.**

### Groz-Beckert

Textiles are everywhere and are found in a wide variety of shapes and functions in all areas of life: Fashion, sports and leisure, home textiles, flooring or in architecture. And textiles are also indispensable for mobility – from cars to space

travel – and for health. Groz-Beckert manufactures machine needles, precision parts and precision tools and offers supporting services for all aspects of the textile industry, from fashion, home and domestic textiles to technical textiles.



### Technology and Development Center

Groz-Beckert represents reliable product quality and customer service in the world of textiles. The Technology and Development Center (TEZ) was opened in 2010 in order to develop new development and application fields for textiles in cooperation with customers and partners. Not only is the TEZ furnished with state-of-the-art equipment, it also provides the perfect environment for bundling the competencies and knowledge of Groz-Beckert. As a future-oriented company, Groz-Beckert places great value on the research and continued development of new technologies and application fields in the textile industry.

### About Groz-Beckert

- Founded: 1852
- Head office: Albstadt, Germany
- Employees: 7,693 (as of 31.12.2016)
- Sales: 665 million euros (2016)
- Production companies: Germany, Czech Republic, Portugal, USA, India, China, Vietnam, Belgium
- Distribution network: Distribution subsidiaries and partners in over 150 countries

## Carding in the textile value chain

Experts all over the world agree: “Carding is the heart of the spinning mill” and “Well carded is half spun”.

Both statements clearly illustrate the importance of carding in processing of staple fibres, both for yarn production and fabrication of nonwovens.



The concept of carding exists since 1770 and carding machines exist since 1850, with the concept remaining unchanged to this day. The performance of carding machines, however, has increased enormously since then. While the production rate was less than 10 kg/h still into the 1960s, up to 220 kg/h are achieved today. This enormous increase in performance is possible only with the help of suitable tools: the card clothing. With the wide range of the available card clothing types today, a customized card clothing specification for the carding machine, cotton card or roller top card, the fiber raw material to be processed and the production rate is possible.



# Products and competence



## Tools – from fiber to yarn and from fiber to the web

Groz-Beckert offers all card clothing items from one source: from consulting, product recommendation and the entire product range through mounting service and special roll repair to start-up service. The portfolio includes card wires and clothings for the short staple and long staple spinning industry and for the nonwovens industry. Groz-Beckert serves textile machine manufacturers and textile companies worldwide with advanced products and service programs.

# History of carding under Groz-Beckert

Since 1980, Groz-Beckert has supplied the nonwovens industry with felting and structuring needles as well as jet strips for water entanglement. Also with the service for metallic card clothing the company has several years of experience. In 2015 Groz-Beckert acquired the worldwide carding activities of the Belgian Bekaert Group, which now presents the product group Carding.

The history of carding within Groz-Beckert dates back to the invention of metallic carding wire, beginning of the 20th century:

- In 1923, the company Platt Frères registered its invention of metallic wires for carding.
- In the 1950's English Card Clothing (ECC) was established, as a consolidation of five card clothing companies.
- In 1973, ECC bought Platt Frères to enter into the metallic card clothing business. ECC itself was a survivor of flexible card clothing in the UK.

- In 2005, the Belgian Bekaert Group, being a supplier to card clothing manufacturers, acquired the whole ECC group and consolidated with two other card clothing companies – Damgaard from Germany and Sobelcard from Belgium.
- In 10 years, Bekaert Carding Solutions became one of the largest card clothing wire suppliers in the world.
- In 2015, Bekaert Carding Solutions was acquired by Groz-Beckert and now presents the product group Carding.

RÉPUBLIQUE FRANÇAISE.

OFFICE NATIONAL DE LA PROPRIÉTÉ INDUSTRIELLE.

BREVET D'INVENTION.

IV. — Arts textiles, utilisation des fibres et des fils. N° 560.832

1. — MATIÈRES PREMIÈRES ET FILATURE.

Nouvelle garniture de carde métallique.

Société PLATT FRÈRES résidant en France (Nord).

Demandé le 9 janvier 1923, à 14<sup>h</sup> 44<sup>m</sup>, à Paris.  
Délivré le 20 juillet 1923. — Publié le 11 octobre 1923.  
(Demande de brevet déposée en Belgique le 18 décembre 1922. — Déclaration du déposant.)

Le but de la présente invention est de remplacer la garniture de carde bien connue, et qui est fabriquée avec une base de tissu caoutchouté, cuir ou autre matière, et dans laquelle sont boutées des pointes en fil de fer ou d'acier, par une nouvelle garniture à base métallique mais avec les pointes en forme d'aiguilles et non coudées comme dans l'ancienne garniture en étoffe ou cuir.

10 Les avantages de cette nouvelle garniture de carde métallique sont :

1° Par suite de la forme droite et non coudée de la nouvelle garniture, la matière à carder n'étant pas retenue par le crochet se débouche facilement et automatiquement.

15 2° Cette carde ne nécessite aucun aiguisage, la garniture n'étant plus bouchée, la matière se travaille au fond des aiguilles et non sur les pointes, ce qui évite l'usure de ces pointes.

20 3° N'ayant plus d'arrêt de la carde à cause du débouche des garnitures et de l'aiguisage des pointes, le rendement de la nouvelle garniture métallique est près de un tiers plus grand que la garniture à base d'étoffe ou de cuir.

25 4° Cette nouvelle garniture ne fait plus aucun déchet et la matière cardée est moins raccourcie.

30 Il est bien entendu qu'il ne faut pas con-

fondre la nouvelle garniture métallique à pointes d'aiguilles avec la garniture métallique déjà connue sous le nom de fil à dents de scie, la forme des pointes de cette nouvelle garniture étant celle de l'aiguille et non de la scie, ainsi qu'il ressort du dessin annexé, montrant :

Fig. 1. La nouvelle garniture, et  
Fig. 2. Un fil à dents de scie.

Le fil à dents de scie est employé à préparer la matière textile sur le devant de la machine à carder, c'est-à-dire ouvrir et nettoyer la matière textile avant le cardage proprement dit, avant son arrivée sur le tambour, travailleurs et peigneurs, sur lesquels on applique maintenant la nouvelle garniture métallique à pointes d'aiguilles, en remplacement de la garniture ordinaire à base de tissus, d'étoffe caoutchoutée, cuir ou autre.

La nouvelle garniture de carde à base métallique et à pointes d'aiguilles permet de couvrir les tambours, travailleurs et peigneurs des machines à carder avec un nombre égal de pointes, ou même supérieur à celui de la garniture de cardes à base de tissus cuir ou autre, ce qui n'a jamais été possible avec les fils à dents de scie fabriqués jusqu'à ce jour, qui, jusqu'ici ont été fabriqués pour ouvrir les déchets, préparer et écharbonner les matières textiles.

Prix du fascicule : 1 franc.

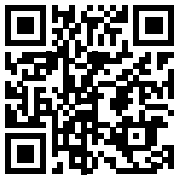


# Carding product range

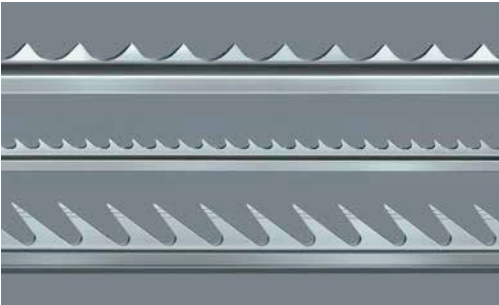
The product range of Groz-Beckert Carding enables to cater for the most demanding applications in spinning, long staple and nonwovens, from very low-speed to ultra high-speed. Therefore Groz-Beckert has developed its range of metallic wires, fixed flats, fillets and tops. Please check our dedicated product brochures for more details.



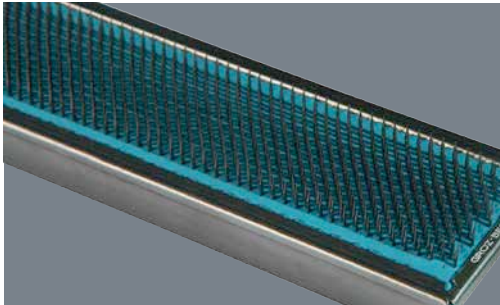
More information on products  
for the nonwovens industry



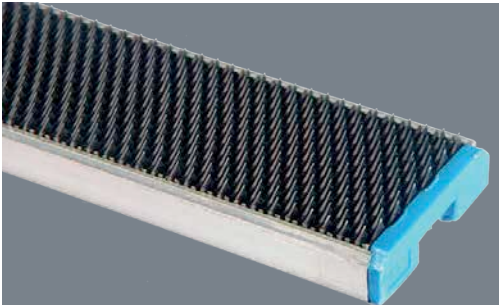
More information on products  
for the short staple and long  
staple spinning industry



Metallic wires



Flat tops



Stationary flats



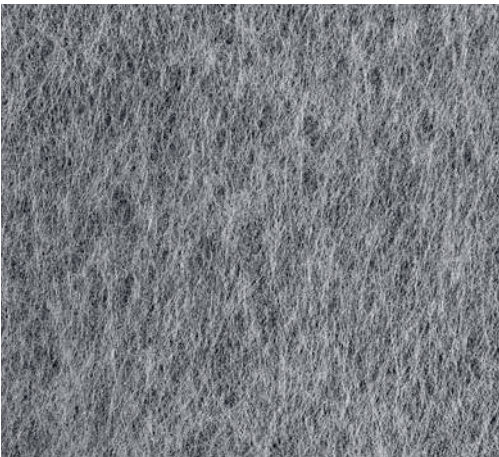
Cleaning fillets



Cops



Cross-wound bobbins



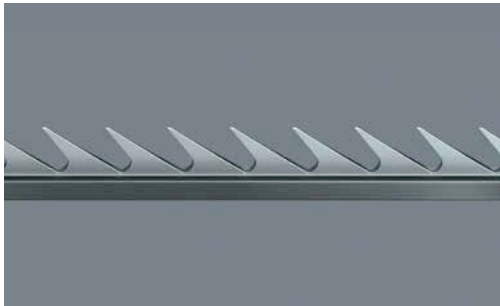
Carded web



Cross-layed web

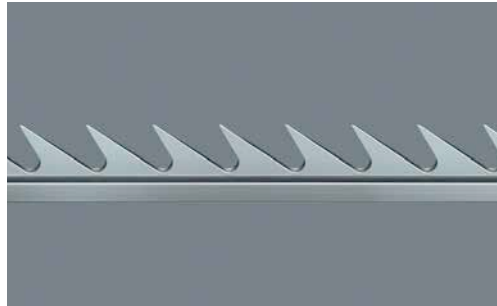
## Focus on fiber protection

**The broad selection of designs, steel grade and finishing types allows the customer to choose the perfect setup for any brand of carding machine. It is the aim of Groz-Beckert Carding to assist customers to fully utilize their raw material fibers.**



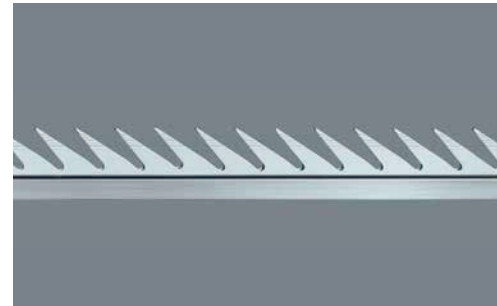
### Standard brushed wires

As a standard feature, all wires are brushed during the manufacturing process to reduce black scales to a minimum.



### Pearlech

Sand blasted finish for a clean burr-free and de-scaled surface. Sand blasting increases the friction between the wire surface and the fibers. This feature has a positive influence on high-speed carding processes with smooth fibers such as on workers and doffers and improves fiber adhesion.

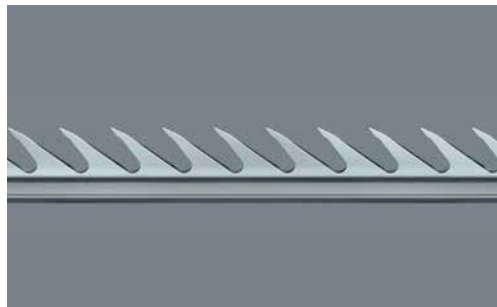
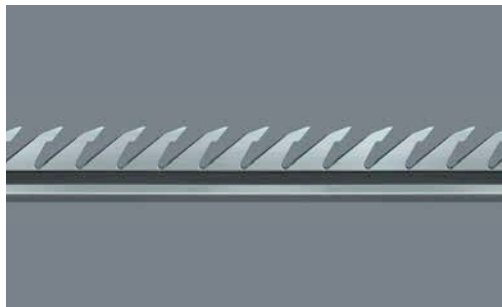


### Platinum

Deburred and polished finish. This "mirror like" finish prevents fibers from sticking to the wire and is mostly used for main cylinders, condensers and take-off rollers. The platinum finish is particularly suitable for processing fine fibers.

## Unique carding products

Being a customer-focused company, Groz-Beckert is constantly listening inputs from the market to further develop cutting-edge carding technology. This interaction between customer and R&D has proven to be a strong tool in tackling today's challenges. At present, below mentioned unique products are in the Groz-Beckert range. Please contact Groz-Beckert Carding for more details.



### SiroLock®

SiroLock® is a card wire with a unique step especially designed for doffers and workers. SiroLock® controls fibers at the step instead of at the front angle. This significantly improves its fiber retention, enabling it to take much more fibers than conventional wires. This wire is especially beneficial in the ever-demanding high-speed spunlace industry.

### EvoStep®

EvoStep® is a new range of worker and doffer wires that feature a unique undercut on the tooth front which is more pronounced compared to the angle of the overhang part below the tip. Thanks to this "evolutionary" step, the fiber taking and holding capacity of EvoStep® is up to 30 % better compared to conventional wires.



### More information

Carding is taking the lead in launching innovative products to improve the customers' output and reduce downtime. So, keep track of upcoming events via the Groz-Beckert newsletter or on the Groz-Beckert website.



Groz-Beckert Carding



Groz-Beckert newsletter

## Commitment of Groz-Beckert Carding

**The broad selection of designs, steel grade and finishing types allows the customer to choose the perfect setup for any brand of carding machine. It is the aim of Groz-Beckert Carding to assist customers in reaching the optimal fiber processing methods.**

Due to the long history in the textile industry, Groz-Beckert Carding understands the needs of the customer. The main dynamics in the market can be summarized as follows: find the best matching product for any application, the shortest possible lead-time and the highest level of quality. Of course, this all at a competitive cost-benefit ratio.

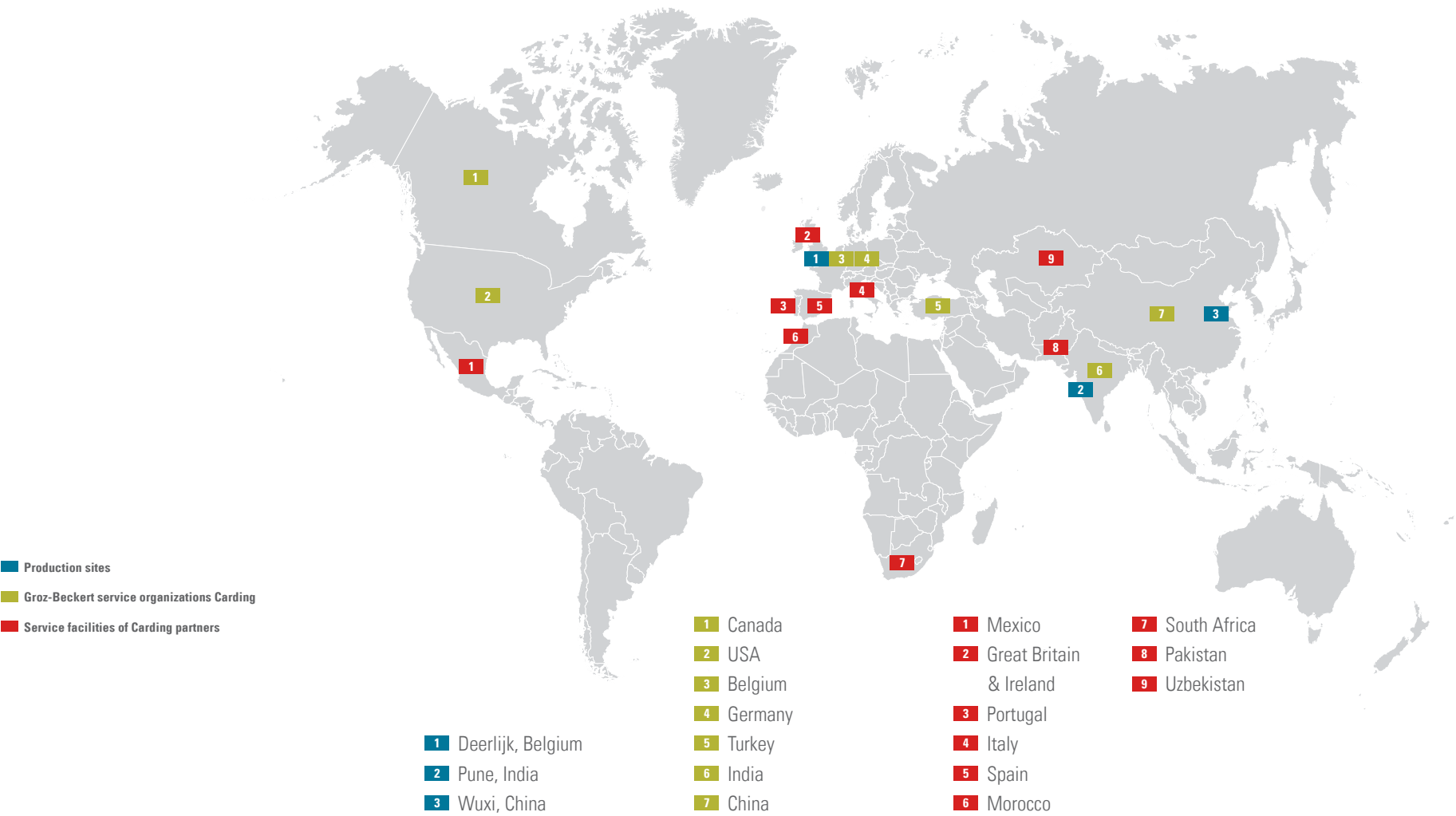
Based on these dynamics, Groz-Beckert Carding therefore commits to the following:

- Groz-Beckerts team of carding specialists goes the extra mile to help selecting the best match in products. If needed, the team will be happy to give input on the application side.
- Due to a broad stock range, also locally, and efficient production, Groz-Beckert Carding can promise goods that will be supplied with the shortest possible lead time. It is standard in our business that your inquiries will be handled as fast as possible.
- At Groz-Beckert, quality is taken into account in every step of the manufacturing process until the very mounting of wires. The reputation of Groz-Beckert quality hence can be found both in services and products.



# A local service supported by global presence

Benefit from our commitment to local service supported by our global presence. You can rely on our global network of production sites, service organizations and the facilities of our partners to ensure that your requirements are met quickly and efficiently. All sites and facilities guarantee service even beyond their national borders.





# Groz-Beckert Academy and myGrozBeckert App

## Academy – Your textile training program

The Groz-Beckert Academy has made it its mission to pass on knowledge, to share experiences and to make know-how and expertise accessible.

The range of courses includes basic, continuing and specialized training, all of which are held in the Technology and Development Center (TEZ) in Albstadt. The Groz-Beckert Academy also offers individual training on-site at the customer.

All courses are offered in both German and English. Selected courses are also available in other languages, such as Chinese and Spanish.



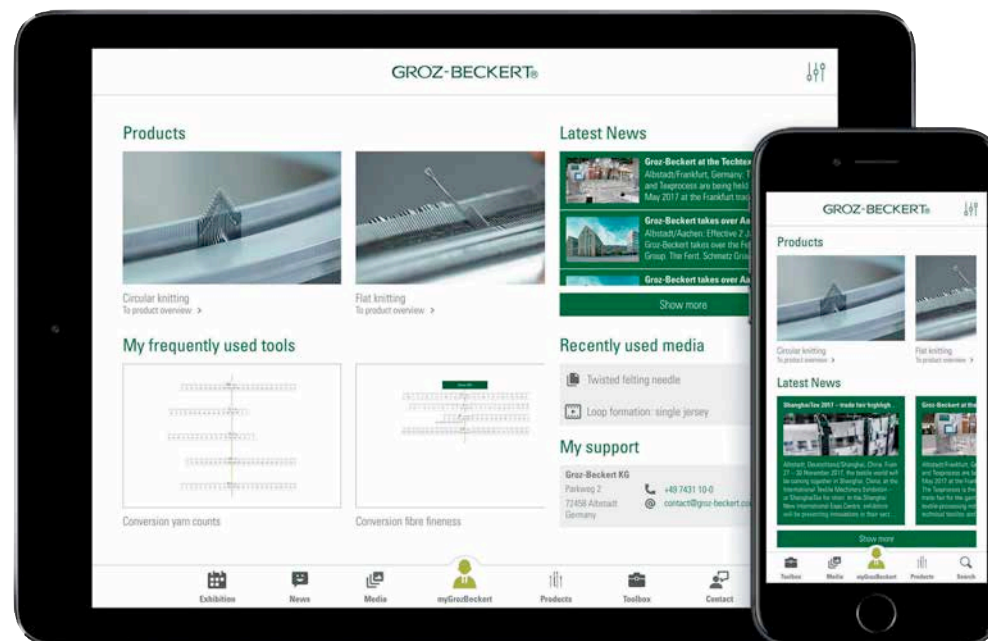
More information on the Groz-Beckert Academy is available on the website and in the training program

## App – Your personal work tool

myGrozBeckert has brought the textile world together in one app since 2011. Providing information on Groz-Beckert products as well as the company itself. The highlight of the app is the Toolbox, which provides the user with useful conversion and calculation tools. The app also informs you of any news and events relating to Groz-Beckert.

The newest version of the app was released to app stores in 2017 with fully customizable navigation. This enables users to define favourites and preferred topics themselves and to change them at any time as required.

myGrozBeckert works with all iOS and Android smartphones and tablets, and is available in German, English, and Chinese. You can download the free app through the Google Play Store, the Apple App Store or through various Chinese app stores.



## **Groz-Beckert KG**

Parkweg 2

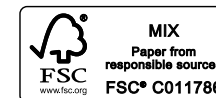
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