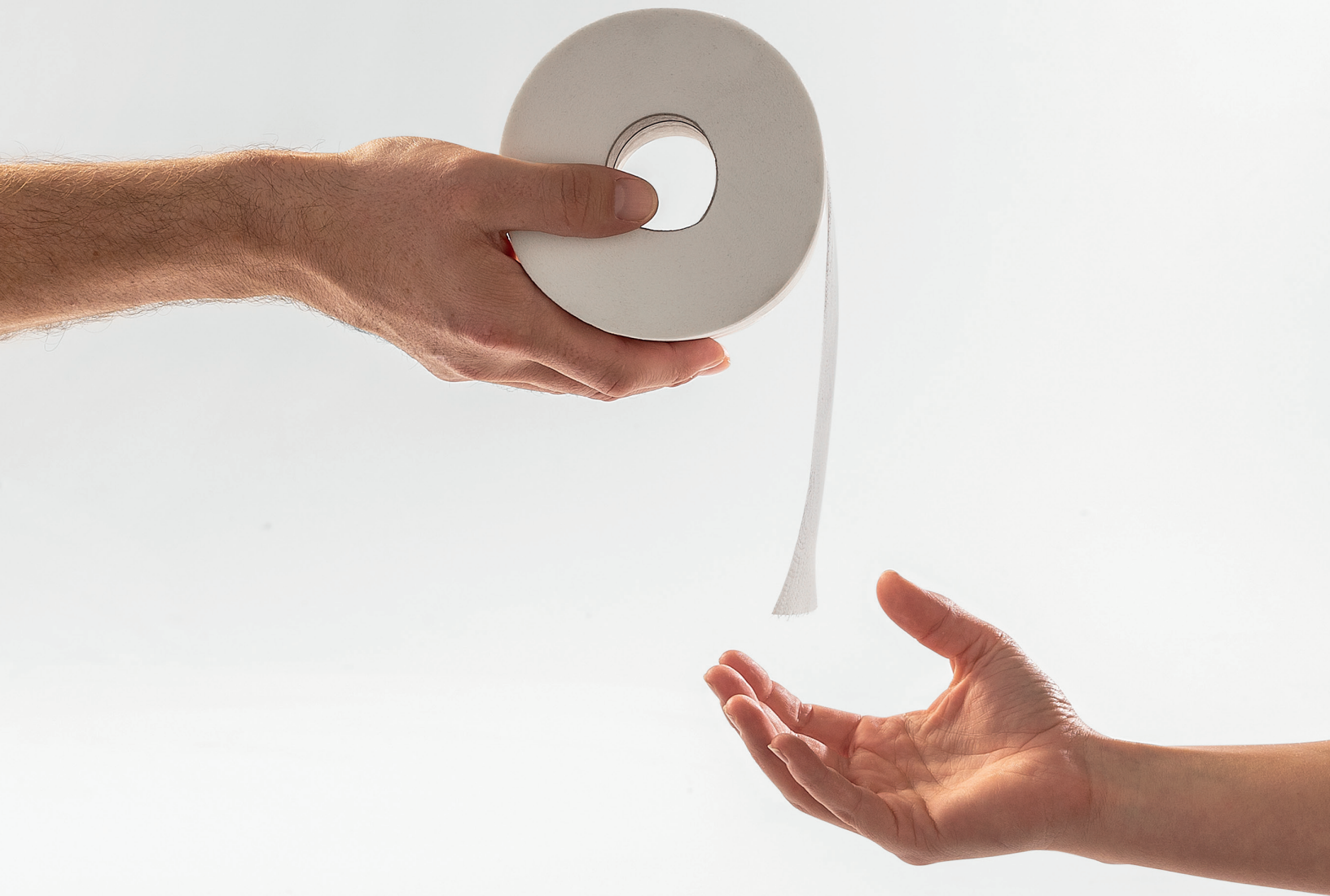


# Roll Covers and Services for the Tissue Converting



# Overview of the Hannecard Group

## 120 Years of Experience

Hannecard boasts 120 years of experience and has become one of Europe's leading suppliers of rubber, polyurethane, composite, and carbide coverings for rollers and sleeves used in various industries, like paper, tissue, steel, plastic, wood, board, textile, food and beverage.

## Top-quality, High tech Products and Services

Hannecard provides over a thousand custom-made roller covering solutions. Our product solutions range from rubber and polyurethane to composite and spray coating. We constantly develop new compound formulations to improve the lifespan and performance of roller coverings. Hannecard combines its hands-on experience with the latest technological developments to create a wide range of services. We can deliver a complete program of roller maintenance, repair, and management.

## Innovation and Research

Research and Innovation have always been the cornerstones of Hannecard Group's activities. Innovative ideas, technological improvements, and new product developments are central to performance and added value of the group. At our global and local laboratories, dedicated teams of researchers work constantly to develop new rubber, polyurethane, carbide, and composite solutions that are applicable for specific operating conditions of each client, and meet the demands of the market in general.

“ Our mission is to add value to the tissue through the embossing and laminating process



# 02

## Converting of Tissue Products

As hygiene is a mounting priority across the globe, the demand for tissue paper products continues to rise.

Tissue products have evolved to meet the growing demand in terms of comfort and luxury. Customer choices are triggered by properties such as soft hand-feel, perfumed, multiple layers, and colored patterns.

These product changes need to be met by today's evolving machinery, at the same time provide faster production at a lower cost.

Never before, the elastomer coated rollers have played such an important role in achieving the combined demands of the paper converting companies.

**Hannecard Rollin is the only company to offer optimized roller covers for gluing, laminating and embossing that meet all the paper and process requirements.**



“

We accelerate your performance



We have **more than three decades of experience** and knowledge in tissue converting



Our **unique nip pressure optimization software** allows minimizing the constraints in the nip, resulting in maximum lifetime and performance



**Increased lifetime and reduced energy consumption:** less downtime, lower total cost, lower carbon footprint



We propose **fine-tuned solutions** adapted to the finished paper and its properties, including lighter base paper, caliper, engraving pattern, tensile strength, hand-feel, and more



**Tailor-made advice,** follow-up and services. Optimization of all usage parameters



We also provide a **comprehensive range** of rubber, polyurethane, and composite technologies for all applications

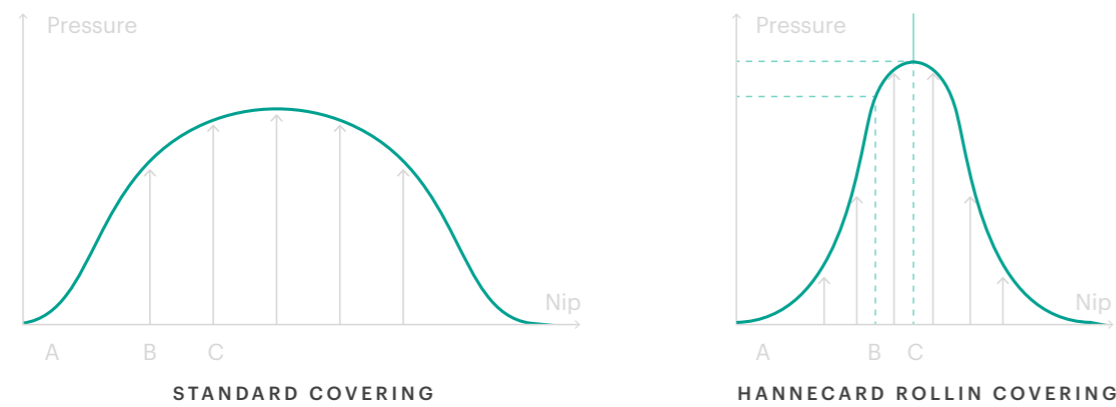


Our technology offers **high precision grinding and perfect roller surface**

# 03 Nip Pressure Optimization

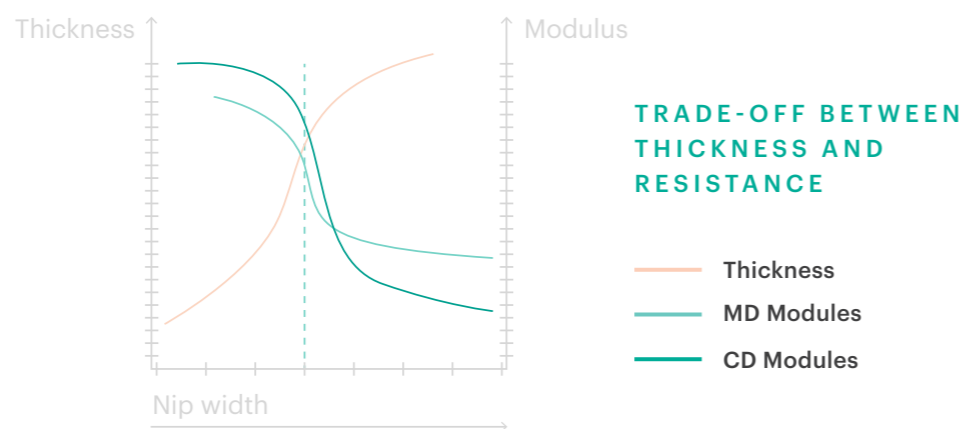
The pressure in the nip is the force which deforms the paper in the embossing process, or pushes the glue through the plies (paper layers) in the laminating process.

At equal load, Hannecard Rollin covers guarantee a much narrow pressure distribution, offering results that are up to 25% better than the market standard. Thus, we need a lesser load to achieve the same result. The benefits are less abrasion, longer lifetime of the rollers, lower energy consumption, and lesser stress on the bearings.



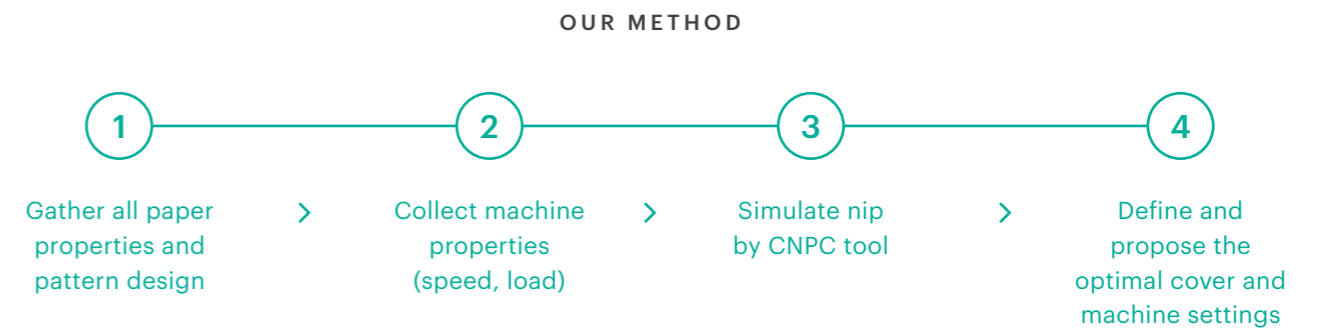
Furthermore, Hannecard Rollin combines specific properties of their covers with an optimized nip calculation. This allows the paper converter to obtain the required thickness, without having to press harder on the embossing roll.

The advantage is that the addition of extra paper on every roll is not required and that the process is more stable over a longer time.



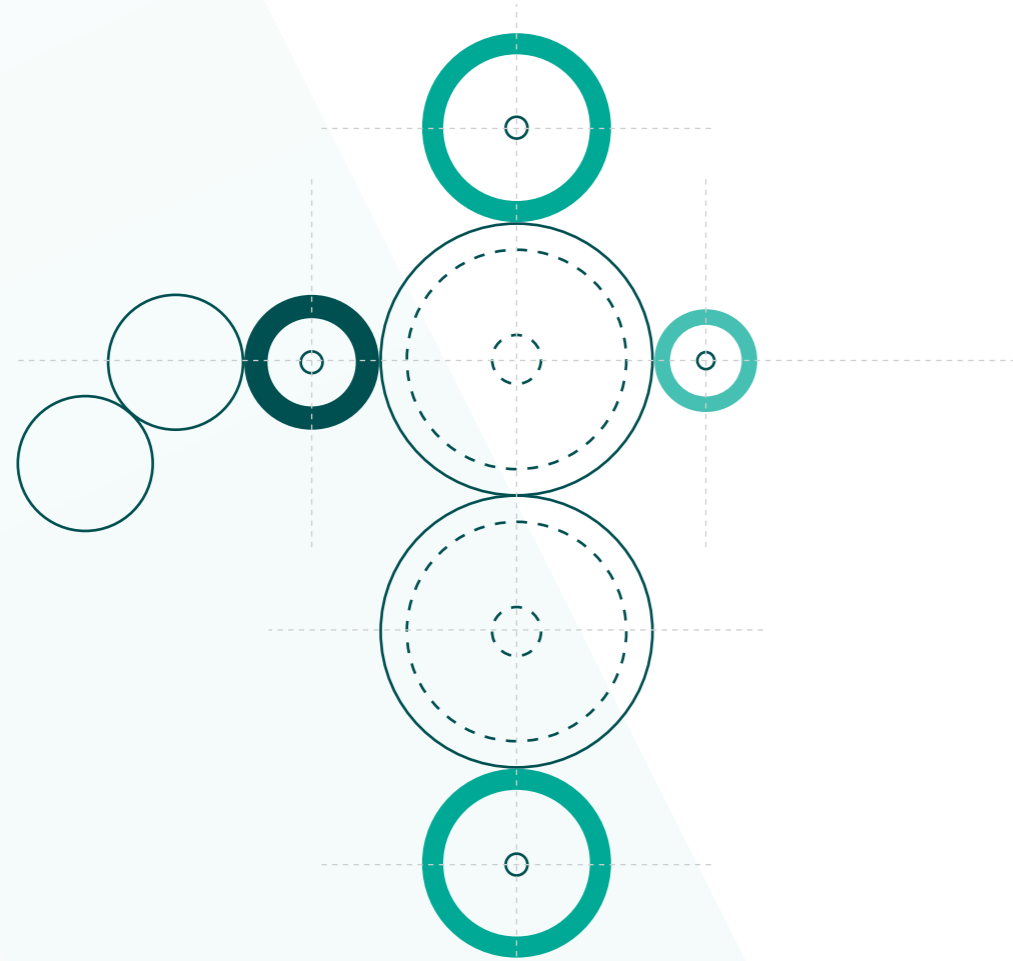
## CNPC

Our unique calculation tool, called CNPC, simulates the dynamic behavior of our elastomers in the nip. CNPC allows the optimization of the nip pressure in function of the desired paper properties. This lets you select the best covering solution and optimize the machine settings to get the best results. By combining our expertise with the use of CNPC, we can design the most functional roller coating in terms of cover type and shape (crown), number of layers, optimized thickness, and hardness of each layer. To do so, we study the properties of the final product (GSM, caliper, tensile strength, hand-feel, and absorbency), the design and embossing pattern and the machine configuration.



# 04

## Covering Solutions



### EMBOSSING ROLLS



RESISTOPLAST  
XL PLAST  
MULTIPLAST  
EMBOFLEX XL

### GLUE APPLICATOR ROLLS

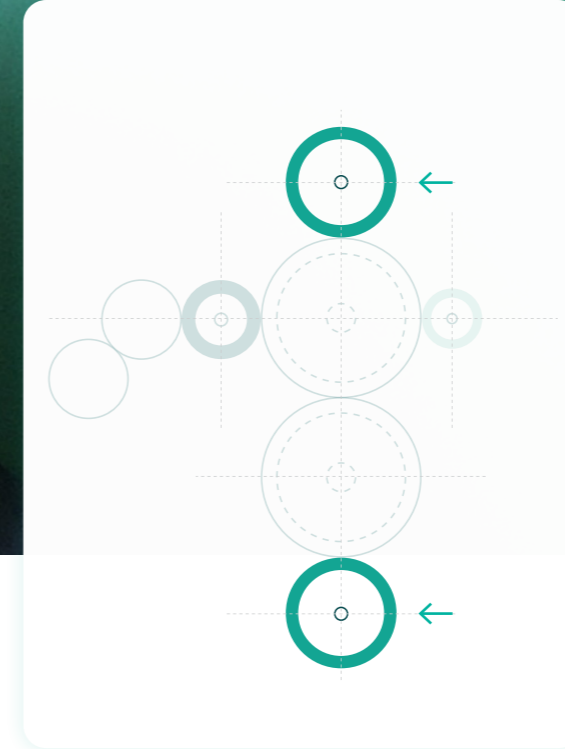


SIZEMASTER  
SIZEMASTER 4

### MARRYING ROLLS



PRESS PLAST 1  
PRESS PLAST GOLD  
PRESS PLAST 4  
COMBISTAR XP



## Covering Solutions for: EMBOSSING ROLLS

Embossing is used to create patterns, keep the paper plies together, and give volume and thickness to the product.

In most cases, rubber-to-steel embossing is applied to hygiene paper. The rubber embossing roll needs to accept the engraved or needle pattern in a way, that the paper receives the desired deformation.

Hannecard Rollin offers 4 covering ranges, along with an optimized CNPC calculation.



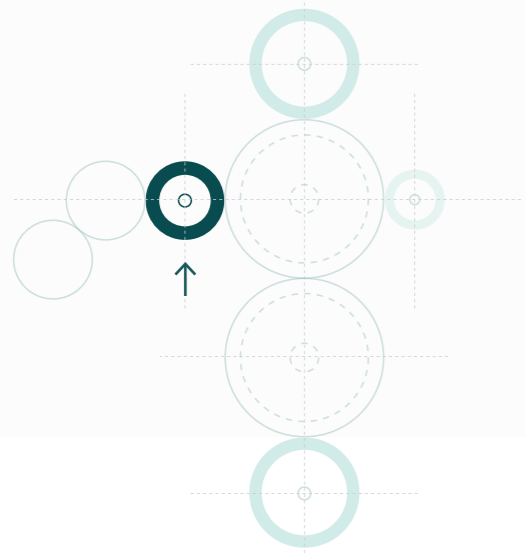
### YOUR REQUIREMENTS

- Preserve the paper resistance
- Obtain the desired embossing effect with all pattern types (micro, macro, décor, double height)
- Achieve the desired paper properties: bulk, thickness, resistance, length, faithful décor pattern, softness
- Avoid shadow images

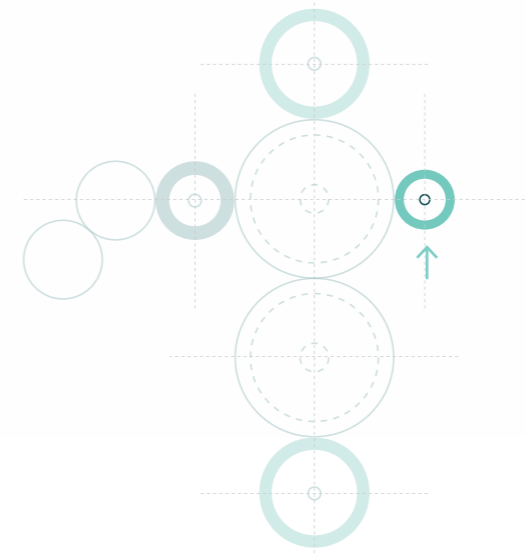


### PROPERTIES AND ADVANTAGES OF OUR ROLL COVERS

- Excellent elasticity and abrasion resistance
- Multilayer-technology based on CNPC calculation
- Low heat build-up
- Optimized crowned profile
- Optimized embossing result
- Long lifetime and nip stability
- Optimized cover in the function of machine properties and speed



Covering Solutions for:  
**\ GLUE APPLICATOR  
 ROLLS**



Covering Solutions for:  
**\ MARRYING  
 ROLLS**

On modern tissue finishing machines, the applicator rolls are considerably larger and heavier than before. Yet the typical needs of applicator rolls (precise geometry, purity, defect-free surface, transfer affinity) remain unchanged. Additionally, the reduction of glue consumption has become a priority. Consistent and even glue transfer are primordial. Hannecard Rollin has developed products that perform exceptionally. We are also equipped with high precision grinding and finishing machines that assure the required dimensional precision and accurate surface profile. The applicator rolls, also known as cliché rolls, transfer the exact amount of glue to the paper.



**YOUR REQUIREMENTS**

- Even and accurate amount of glue, over the complete width and circumference
- Prevent rigidity and preserve the softness
- Resist to the abrasion caused by the anilox roller, turning at a different speed, and by the paper
- Chemical stability (cleaning products, ink)



**PROPERTIES AND ADVANTAGES OF OUR ROLL COVERS**

- Rubber and polyurethane solutions
- High purity
- Excellent abrasion and tear resistance, improved shape stability
- Outstanding chemical resistance
- Very high geometrical precision
- Sleeve solutions, including in-house production of the composite sleeve core

The marrying rolls, also known as lamination rolls, assure the joining/bonding of the different tissue paper layers.

Because of increased technical demands for multi-layered paper, the marrying rolls have also evolved enormously on modern machines. They now come with properties such as higher working pressure, bigger rolls, higher precision, higher cover hardness, and double-layer covers.

Hannecard Rollin can meet all these evolved requirements; we also guarantee improved nip stability. This is significant as it assures constant quality and higher precision in the lamination process.



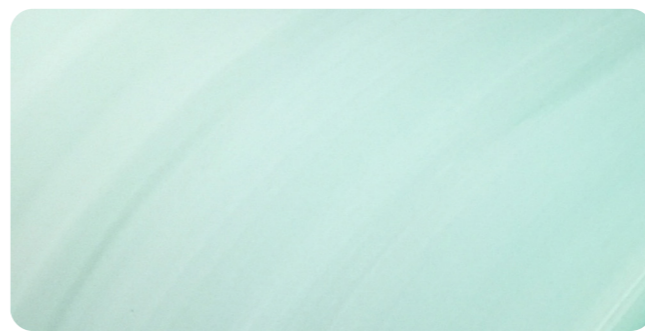
**YOUR REQUIREMENTS**

- Good bonding of the paper, whatever the number of plies
- No back-side effect (re-embossing of the inner ply)
- Optimized glue dosage with minimum glue consumption



**PROPERTIES AND ADVANTAGES OF OUR ROLL COVERS**

- Rubber and polyurethane solutions
- Enhanced lamination quality, thanks to a more stable and higher pressure nip
- Good elasticity, excellent abrasion resistance, chemical stability, antistatic
- Low dust attraction, easy to clean
- Optimal paper release
- Possibility of double-layer covers for no-glue lamination processes



## Roll Cover Specifications

MARRYING ROLLS								
Covering solution	Compound	Hardness (Shore)	Color	Mechanical stress resistance	Abrasion resistance	Easy cleaning	High machine speed	Improved lifetime
<b>Press Plast 1</b>	Rubber	90 - 98 A	Green, blue	••••	••••	••••	••••	••••
<b>Press Plast Gold</b>	Rubber	72 D	Green	••••	••••	••••	••••	••••
<b>Press Plast 4</b>	Polyurethane	90 - 99 A	Black	••••	••••	••••	••••	••••
<b>CombiStar XP</b>	Polyurethane	92 A	Brown	••••	••••	••••	••••	••••

EMBOSSING ROLLS									
Covering solution	Compound	Hardness (Shore)	Color	Mechanical stress resistance	Abrasion resistance	Resilience & compression set	Hardness stability	Heat build up	High machine speed
<b>Resistoplast</b>	Rubber	45 - 70 A	Green	••••	••••	••••	••••	••••	••••
<b>XL Plast</b>	Rubber	50 A	Fuchsia	••••	••••	••••	••••	••••	••••
<b>Multiplast</b>	Rubber	55 A	Purple	••••	••••	••••	••••	••••	••••
<b>Emboflex XL</b>	Rubber	55 - 60 A	Blue	••••	••••	••••	••••	••••	••••

GLUE APPLICATOR ROLLS											
Covering solution	Compound	Hardness (Shore)	Color	Wettability	Glue transfer	Low surface roughness	Dimensional stability	Abrasion resistance	Improved lifetime	Chemical compatability	Mechanical stress resistance
<b>Sizemaster</b>	Rubber	62 - 69 A	Black	••••	••••	••••	••••	••••	••••	••••	••••
<b>Sizemaster 4</b>	Polyurethane	60 - 70 A	Blue, black, yellow	••••	••••	••••	••••	••••	••••	••••	••••

# 05

## Other Services



### 01 Mechanical Roll Services >

- Complete maintenance
- Assembly
- Journal repair
- Dynamic balancing
- Non-destructive tests



### 02 Supply of New Rolls >

- Design and engineering
- New cores & assembled rolls



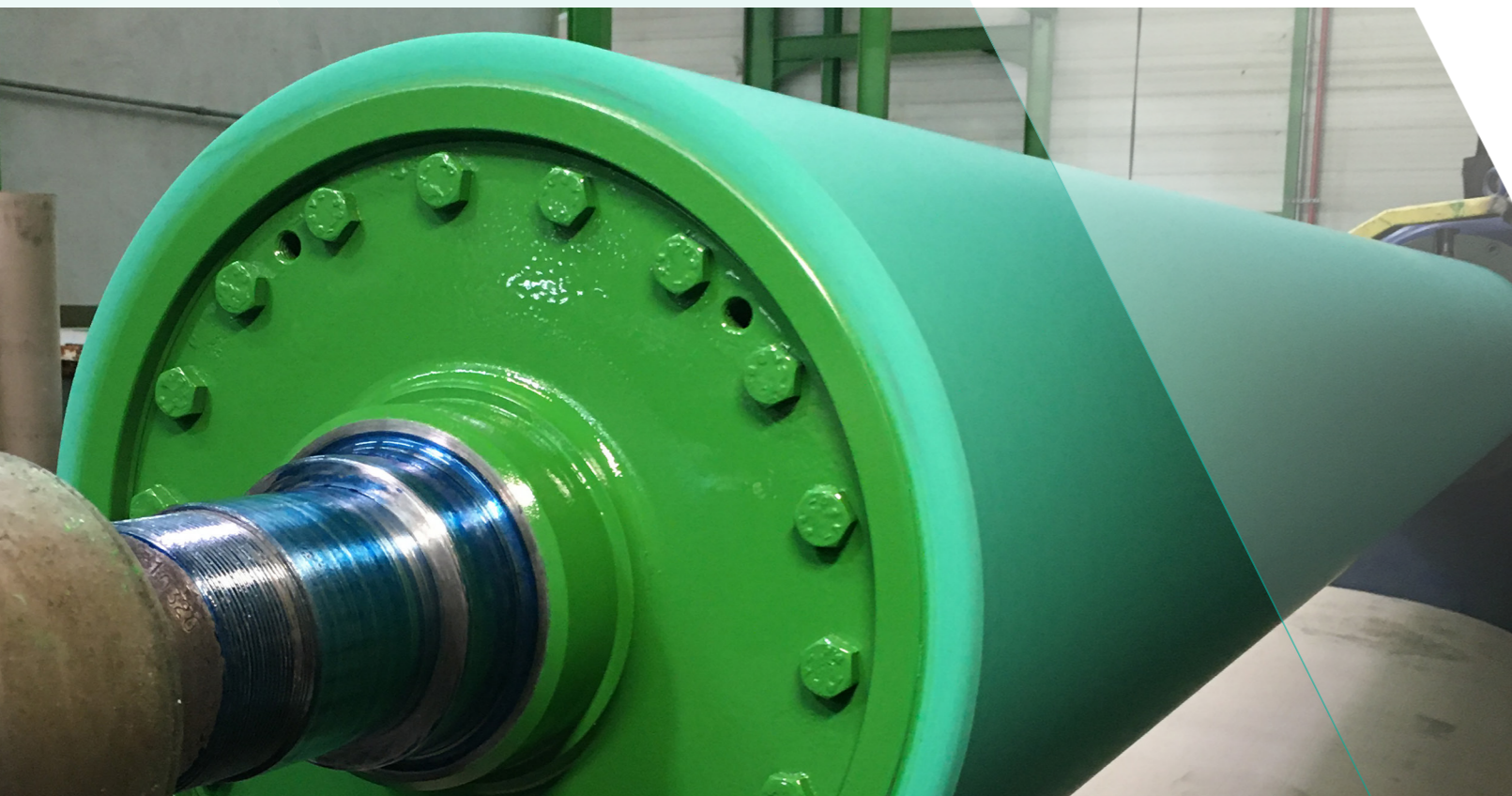
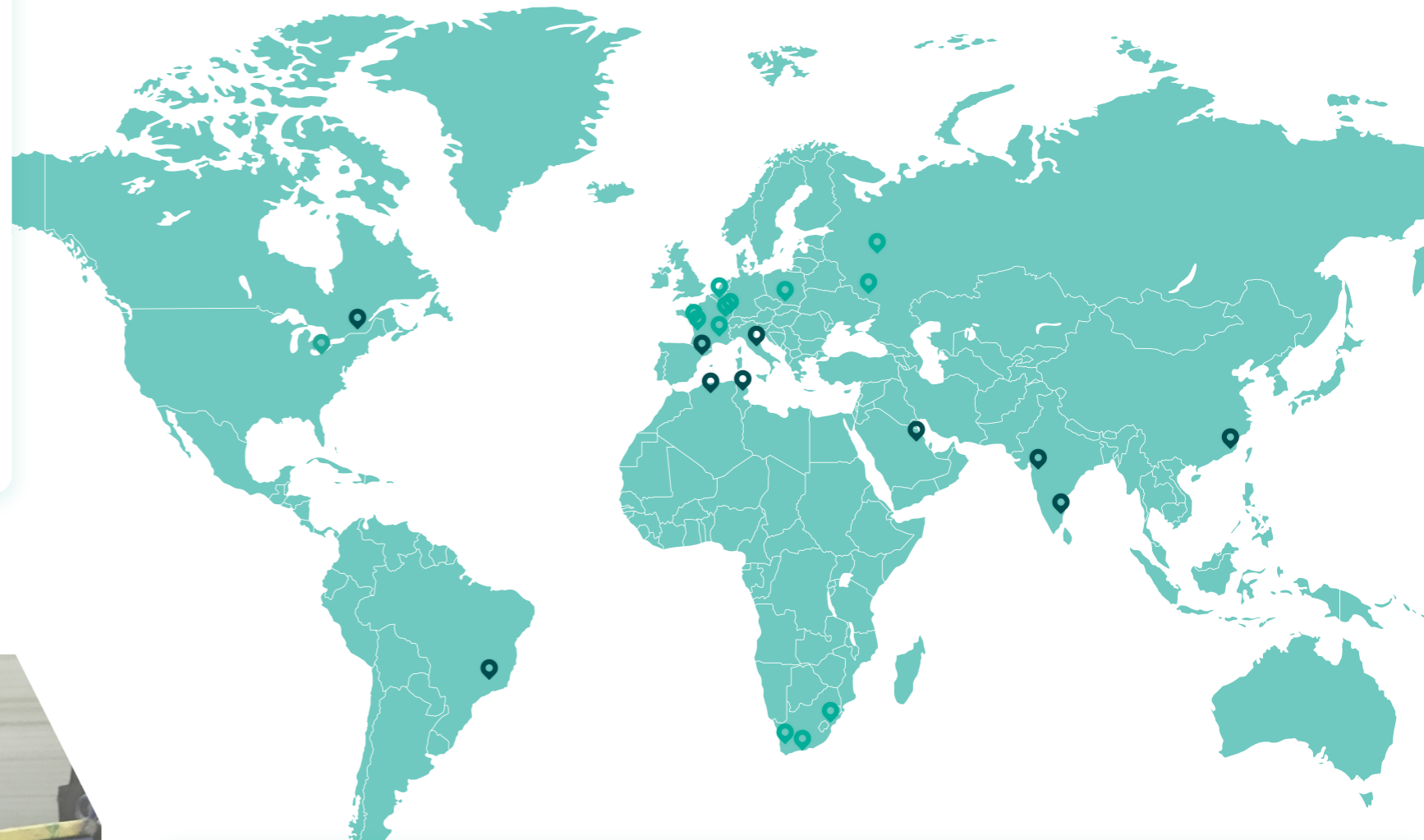
### 03 On-site Services >

- Inspection & expertise
- Dimension measuring

## A Worldwide Network

The growth of the Hannecard Group has been characterized by a strong international focus and commitment to refining service in local markets. Local partnerships warrant the availability of Hannecard technology across and beyond European borders. This also facilitates the complete standardization of roller coverings.

● HANNECARD PLANTS      ● JOINT VENTURES & LICENSEES



Countries



Production plants



Employees



Roll cover/y



