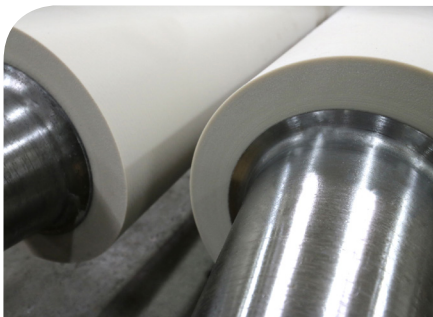


MONKAL®

THE ONLY ROLLER COVERING ESPECIALLY DEVELOPED FOR COATING APPLICATIONS

With the development of the **Monkal®** polyurethane covering range, Hannecard has achieved a major breakthrough. The **Monkal®** compounds are specially designed for coating purposes and combine extreme purity with high and consistent performance. Thanks to its worldwide production, its unrivalled purity, the combination with special concepts and the unique covering range, **Monkal®** is today the most sold roller covering technology in the world for coating applications.



MONKAL® ADVANTAGES :

- High abrasion resistance
- High cut & wear resistance
- Good resistance
- Good wettability
- Suitable for many industries & applications
- Easy to grind & groove
- Long lifetime
- high surface energy

The **Monkal®** polyurethane solutions are renowned worldwide for their unique coating behaviour, their purity and their long lifetime. **Monkal®** is easy to grind and can be obtained with a hardness between 15 and 70 shore A. But **Monkal®** would not be half as good without the special vertical casting process that guarantees homogeneity throughout. If you have a coating process to run, then **Monkal®** gives you the comforting certainty of high and consistent quality.

Purity & homogeneity

Hannecard applies a state-of-the-art reactor to produce the **Monkal®** polymers, which are then purified by micro-filtering and inspected by our central laboratory. During the covering process of the rollers, the **Monkal®** compound is filtered a second time in order to guarantee the highest purity. Hannecard has chosen explicitly for a transformation process, where the roller is placed in vertical position. This is the best method to assure a roller covering without flow lines, because such lines become visible again in the most critical coating processes. That is why customers worldwide in the most diverse industrial areas have chosen to work with **Monkal®** rollers to obtain the highest coating quality.

Surface wetting properties

All **Monkal®** compounds are characterized by an outstanding surface energy, resulting in a better transfer and application of as well water based as solvent based coatings. Specifically the **Monkal-4**, which contains micro-particles, has the highest surface energy in the market and is recommended for very delicate coating processes.

Stability

The **Monkal** coverings® are developed to have maximum chemical resistance to most solvent based coating liquids. But even if swelling occurs, **Monkal** remains stable to assure the same coating quality longer than any other roller covering quality in the market.

Cutting & abrasion resistance

Even at very low hardness, **Monkal®** polyurethane shows high physical properties, excellent resilience and good resistance to abrasion or edge cutting. **Monkal®5 HP** was developed to further improve the mechanical resistance and to help to obtain maximum machine running time without switching the roller.

Easy to grind & groove

Even if Hannecard uses state of the art equipment to assure the grinding and finishing of every **Monkal** roller, all **Monkal®** types are easy to regrind by our customers or by service companies. Especially **Monkal®4** shows that unique and renown silky surface after grinding.

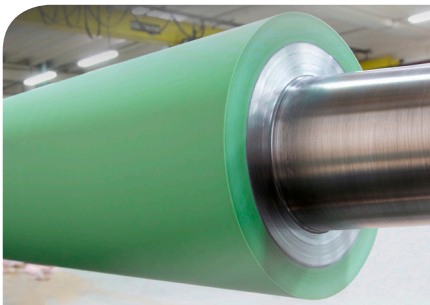
Worldwide production & distribution

Today Hannecard and its partners are equipped with **Monkal®** roller covering units in 13 countries all around the world. Emerging markets as Brazil, Russia, India and China with a strong growth in the coated steel, aluminium, wood, film, board and paper industry can now optimize their process thanks to Hannecard **Monkal®**. Nowadays, more than 8000 coating rollers and wheels are covered with **Monkal®** polyurethane.

TECHNICAL CHARACTERISTICS

- PU technology with double filtering (high purity)
- Vertical casting with special sealing & moulding
- Hardness range: **15 – 70 Shore A**
- Maximum temperature:
 - > Dry: **80° C**
 - > Wet or in solvent environment: **40° C**
- Good solvent resistance
- Excellent oil & grease resistance
- Surface Ra: from **0,3 to 3 µ**
- Surface energy: up to **45 J/m.K.***

* according to Owens-Wendt method on standardized samples with Ra 1,2 µm



Monkal® applications

The Monkal® technology is applicable to practically every roller coating process. Typical applications are coating on metal coils (colour coating, chemical coating, lacquering and varnishing), coating for metal packaging (can and sheet coating), silicone transfer and applicator rollers (adhesives, label stock and tape) and coating on flooring products (wood, laminate and PVC), but Monkal is also used in many other applications. The 15 shore hardness is unique in the market. Its softness can replace foam rubber solutions and extend considerably the machine lifetime, thanks to its excellent physical properties.

Industry	Application	Solution
Metal (steel, stainless steel, aluminium & non-ferrous coils)	Metering and applicator roller for colour coating and solvent based varnishing, food varnishing	Monkal®4, Monkal®5 Monkal®5 HP, Monkal®5 AS
	Electrical insulation varnish	Monkal®4, Monkal®5
	Chemical coating, passivation, water based coating, AFP	Monkal®4, Monkal®5
	Printing, décor	Monkal®4
	Enamel coating	Monkal®4
Metal packaging	Sheet coating ("Mailander")	Monkal®4, Monkal®5, Monkal®5 HP
	Beverage and spray can coating	Monkal®4, Monkal®5, Monkal®5 HP
	Bottom rim coater	Monkal®5
Wood, PVC & laminate	Varnishing & lacquering, PU lacquering	Monkal®4, Monkal®5
	Primer & catalyser coating, water based coating	Monkal®4
	Oiling & staining	Monkal®4, Monkal®5
Adhesives, tape & label stock	Silicone transfer & applicator roller	Monkal®4, Monkal®5 Monkal®5 AS
	Glue application	Monkal®5 Monkal®5 AS
Plastic film	Food coating, varnishing, water & solvent based coating	Monkal®4, Monkal®5 Monkal®5 AS
Paper & board	Water based gluing & coating	Monkal®5

Monkal® characteristics

Solution	Characteristics
Monkal®4 Beige 40 to 65 Shore A	<ul style="list-style-type: none"> • Micro-filler inside • Highest surface energy (wettability) in the market • Highest coating quality • Can be laser engraved
Monkal®5 Green 15 to 70 Shore A	<ul style="list-style-type: none"> • Pure polyurethane solution • Very good abrasion resistance • Highest hardness range in the market • 15 Shore A can replace foam
Monkal®5 HP Blue 55 Shore A	<ul style="list-style-type: none"> • Pure PU solution • Highest abrasion & tear resistance in the market • For maximum lifetime
Monkal®5 AS Yellow 40, 50 & 60 Shore A	<ul style="list-style-type: none"> • Antistatic • Reduces fire risk in solvent based environment

NEED MORE INFORMATION?

For more information about Hannecard or our products, please contact your local Hannecard partner or visit our website at : www.hannecard.com

* Other colours are available on demand – locally the standard colour might change