



# ROLLER COVERING FOR THE METAL INDUSTRY

## CARBON STEEL STRIP PICKLING

### Solutions for a maximum performance and an exceptional lifetime

#### YOUR REQUIREMENTS

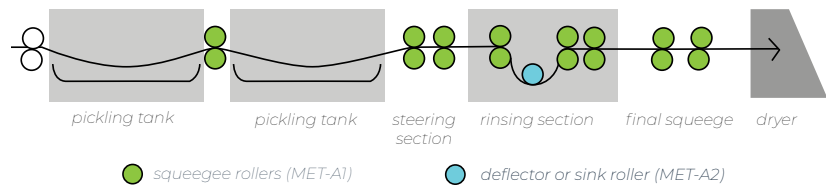
- Products based on hydrochloric acid (HCl 18-33%), on sulphuric acid (H<sub>2</sub>SO<sub>4</sub>) or other
- De-ionized water
- Temperature between 40 and 85 °C
- Line speeds up to 400 m/min
- Irregular and/or cutting strip edges

Once the steel strip has been hot rolled, it is necessary to remove the oxide layer before it can go through to the next stage, the cold rolling process. The acid pickling is a critical process with major influence on the quality of the end product.

The success of the pickling operation depends

largely upon the performance of elastomer covered rolls. These elastomers need to meet specific chemical and physical requirements.

The Hannecard Group offers a wide range of both rubber and polyurethane rolls, which guarantee maximum performance combined with exceptional lifetime.



#### OUR SOLUTIONS

- Maximum resistance to cutting and abrasion
- High chemical stability
- Resistance to continued high temperatures
- Excellent surface, squeezing and steering behaviour
- Definition of the required (crowned) finish
- Printam® base layer and MetalProtect-XP total protection technology
- Mechanical maintenance and engineering

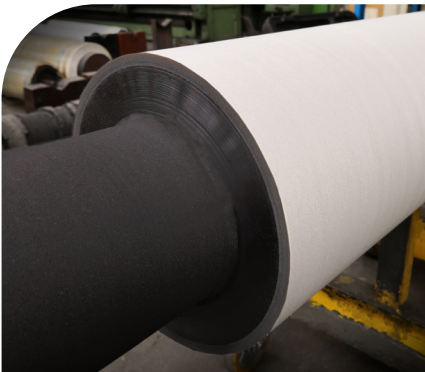
### ● Solutions for squeegee rollers

| Type                           | Solution   | Characteristics   |
|--------------------------------|--|---|
| <b>Standard rubber</b>         | <b>MetalSqueeze-S</b><br>Black<br>60, 70 & 80 shore A              | <ul style="list-style-type: none"> <li>• Excellent wringer behaviour, even at low pressure</li> <li>• Cost efficient</li> <li>• Suited for all positions, but most recommended for the steering, rinsing and final squeegee positions</li> </ul>    |
| <b>High performance rubber</b> | <b>MetalSqueeze-XP</b><br>Black<br>60, 65, 70, 75, 80 & 90 shore A | <ul style="list-style-type: none"> <li>• Excellent wringer behaviour, even at low pressure</li> <li>• Improved abrasion and cut-in resistance</li> <li>• Outstanding acid and temperature resistance</li> <li>• Suited for all positions</li> </ul> |
|                                | <b>SmartSqueeze</b><br>Green/Grey<br>50, 60, 70, 80 & 90 shore A   | <ul style="list-style-type: none"> <li>• Resistant to high load squeezing</li> <li>• Excellent tear and cut-in resistance</li> <li>• Suited for all positions</li> </ul>  |
| <b>Polyurethane</b>            | <b>Hannelyse*</b><br>Brown<br>75 & 85 shore A                      | <ul style="list-style-type: none"> <li>• Outstanding tear and cut-in resistance</li> <li>• Improved dynamic behaviour</li> <li>• Only recommended for the final squeegee positions</li> </ul>   |

\*Combined with our unique total protection layer PRINTAM®

### ● Solutions for sink and deflector rollers

| Type                           | Solution   | Characteristics  |
|--------------------------------|--|--|
| <b>High performance rubber</b> | <b>MetalSqueeze-XP</b><br>Black<br>60, 65, 70, 75, 80 & 90 shore A | <ul style="list-style-type: none"> <li>• Very stable behaviour in time, even at high process temperature</li> <li>• Chemically tight flange and journal protection (MetalProtect-XP technology)</li> </ul> |

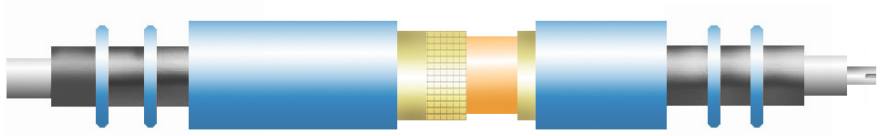


## Printam® : Long Lasting Protection

The Printam® technology is based on the combination of acid resistant resins and reinforcing fibres. It replaces the traditional hard rubber (ebonite) base layers and offers an almost complete protection against incidental cut-ins of the metal strip. As such, acid infiltration and corrosion of the metal core is prevented.

Printam® base layers make it possible to use high performance polyurethane covers without the risk of bonding failures. Indeed, Printam® forms a barrier against vapour penetration through the PU and avoids corrosion underneath the bonding layer. And there are plenty of other advantages.

Printam® can be combined with the latest rubber technology for roller end protection : **MetalProtect-XP**



### The advantages of printam®

- Resistant to all most chemical environments even at high temperature
- Resistant to edge cutting, as such preventing corrosion due to acid penetration
- Long lasting
- Can accept up to 5 times recoating
- Repairable
- Reduces the cost of recoating
- High bonding strength with all Hannecard rubber and PU covering qualities
- Avoids bonding failures with polyurethane covers, even at high temperature

### Optimising the wringer quality

Getting the most out of your squeegee rollers does not only depend on the choice of the covering quality.

Hannecard helps you to optimise all parameters and to reach a maximum performance level :

- Failure mode analysis, roller inspection after use
- Measurement and analysis of the pressure nip between the squeegee rollers
- Profile optimizing (cylindrical, parabolic camber...)
- Roller alignment
- Solutions adapted to driven, partly driven and non driven rollers
- Avoid slip and aquaplaning
- Optimizing of cover hardness, thickness and surface aspect
- Optimizing of the working pressure
- Concept improvements : weight, inertia, rigidity, reinforced bearing seats, dynamic balancing, repair and maintenance, material choice, etc.

### MORE INFORMATION?

For more information, please contact your local Hannecard partner or visit our website at: [www.hannecard.com](http://www.hannecard.com)