



HP HVOF Thermal Spray

# THERMAL SPRAY WITH HP HVOF SYSTEM FOR INDUSTRIAL AND PAPER APPLICATIONS

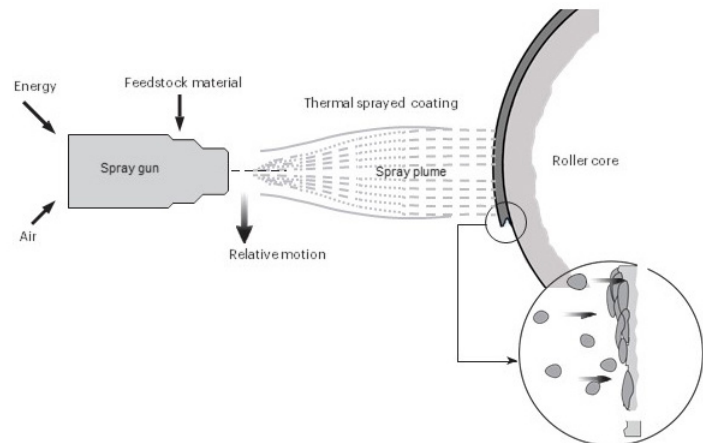
Hannecard La Flèche, France invested recently in a new thermal spray booth with a HP HVOF system.

The Hannecard HVOF Thermal spraying technique, widely used in a variety of industrial applications, is a coating process in which heated materials are sprayed at high speed onto the roller core surface. This technique is commonly applied to metal substrates and often used for abrasion protection, erosion protection, corrosion protection, chemical protection and surface restoration.

HP HVOF, that stands for 'High Pressure High Velocity Air Fuel', is a warm spray process using air. The thermal spraying machine consists of an HVOF gun that utilize axial powder injection into an air-fuel jet with a temperature of about 1900-1950°C. Therefore, the process is capable of effectively applying carbide-based materials and can also apply metals with almost zero oxidation.

## PRODUCTION CAPACITIES :

	La Flèche	Figeac
total length	9500 mm	1200 mm
length table	8500 mm	
maximum Ø	2000 mm	400 mm
max weight	32 ton	100 kg



## PRODUCTION

Once the coating is projected onto the roller, it can be corrected to a roughness of 0.05 µm (also called mirror finish) to 10 µm.

It is also possible to apply a finish on the roller to give it an anti-adherent property. An anti-adherent coating is then obtained with the advantages of a carbide one.

At **Hannecard la Flèche**, the HVOF thermal spray allows coating on rollers with a diameter from 200 mm up to 1800 mm, a length from 1000 mm up to 9500 mm and a weight of max. 32 tons.

At **Hannecard Figeac**, production capacities for thermal spray are: diameter up to 400 mm, total length of max 1200 mm and a weight up to 100 kg.



## OUR HANNECARD SOLUTIONS

Hannecard offers 3 specific thermal spray coatings:

- **High quality chrome carbide**
- **High quality tungsten carbide**
- **High quality carbides with Teflon**

All our solutions are available in a 'Regular' version or a 'Plus' version. The advantage of the 'Plus' version is that it makes use of finer powders to obtain a higher hardness and a better resistance to corrosion and abrasion.

Type	Solution	Characteristics
<b>Chromium carbide</b>	<b>HanneSpray Cr</b> <i>(PikoChrome)</i> <b>CrC -45/+15</b> Hardness up to 900 HV Roughness: from 0,05 til 10 µm	<ul style="list-style-type: none"> <li>• Good resistance to corrosion</li> <li>• High thickness possible</li> </ul>
	<b>HanneSpray Cr Plus</b> <i>(PikoChrome Plus)</i> Fine powder <b>CrC -30/+5</b> Hardness up to 1100 HV Roughness: from 0,05 til 10 µm	<ul style="list-style-type: none"> <li>• Optimum corrosion resistance</li> <li>• Good resistance to abrasion</li> <li>• Food contact certification (EU &amp; USA)</li> </ul>
<b>Tungsten carbide</b>	<b>HanneSpray W</b> <i>(PikoCal)</i> <b>CrC -45/+15</b> Hardness up to 1100 HV Roughness: from 0,05 til 10 µm	<ul style="list-style-type: none"> <li>• Very good resistance to abrasion</li> <li>• Strong adhesion to the substrate</li> <li>• High thickness possible</li> </ul>
	<b>HanneSpray W Plus</b> <i>(PikoCal Plus)</i> Fine powder <b>CrC -30/+5</b> Hardness up to 1400 HV Roughness: from 0,05 til 10 µm	<ul style="list-style-type: none"> <li>• Optimum abrasion resistance (very high hardness)</li> <li>• Better resistance than the Hannespray W to corrosion</li> </ul>
<b>Carbide + Teflon</b>	<b>Carburflon</b> Color: black	<ul style="list-style-type: none"> <li>• Good resistance to abrasion</li> <li>• Good anti-adhesion</li> <li>• Feasible on site</li> </ul>
	<b>Carburflon NG</b> Color: charcoal grey	<ul style="list-style-type: none"> <li>• Good resistance to abrasion</li> <li>• Low wettability</li> <li>• Good scratch resistance</li> <li>• Very good anti-adhesion</li> <li>• Food certificate (If Hannespray Cr below)</li> </ul>

## OUR HANNECARD BENEFITS

HVAF coatings are very dense, strong and show low residual tensile stress or in some cases compressive stress, which enable much thicker coatings to be applied.

Compared to hard chrome, the advantages of our coatings are:

- Abrasion resistance up to 10 times better than hard chrome
- Higher hardness (maximum 900 Hv for hard chrome)
- Better corrosion resistance
- Ability to apply heavy thicknesses
- Possibility of high roughness
- No use of Cr6 + (carcinogenic product used in manufacturing of hard chrome)
- Food certification possible (Hannespray Cr Plus and Carburflon NG)
- Possibility to apply an anti-adherent finish

Next to that Hannecard offers:

- Complete service (new roll + projection)
- Repair of bearing seats
- Balancing