



HP HVOF Thermal Spray

# THERMAL SPRAY WITH HVOF SYSTEM FOR INDUSTRIAL AND PAPER APPLICATIONS

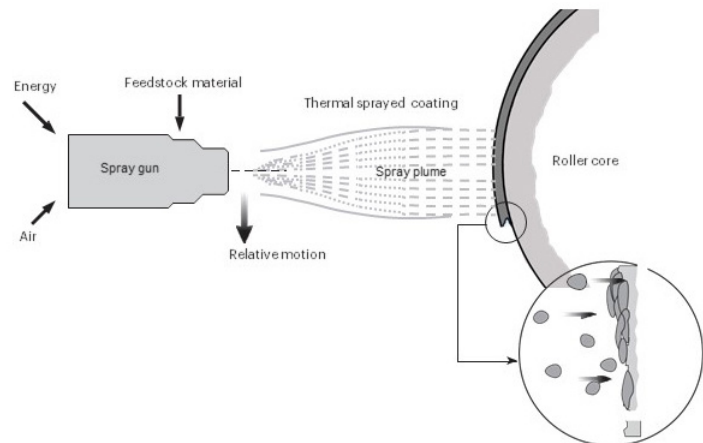
Hannecard La Flèche, France invested recently in a new thermal spray booth with a HVOF system.

The Hannecard HVOF Thermal spraying technique is a coating process which consists in heating and accelerating powder materials at supersonic speed onto the roller. This technique is commonly applied to protect metal substrates against abrasion, erosion, corrosion, chemical attacks and for surface restoration.

HVOF, that stands for 'High Velocity Air Fuel', is a warm spray process using air as oxidizer. This thermal spray equipment consists of an HVOF gun that utilize axial powder injection into an air-fuel jet with a temperature of about 1900°C. Therefore, the process is capable of effectively applying carbide-based materials and metals with almost zero oxidation.

## PRODUCTION CAPACITIES :

	La Flèche	Figeac
total length	10 000 mm	1 200 mm
length table	8 760 mm	
maximum Ø	2 000 mm	400 mm
max weight	32 ton	100 kg



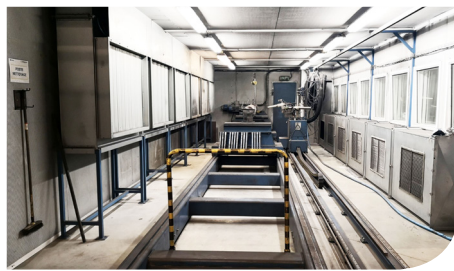
## PRODUCTION

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

It is also possible to apply a finish on the roller to give it an anti-adhesive property. An anti-adhesive coating combining non stick properties and abrasion resistance.

At **Hannecard la Flèche**, the HVOF thermal spray allows coating on rollers with a diameter from 200 mm up to 2 000 mm, a length from 1000 mm up to 8 760 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 carbides**
- **High quality tungsten carbides**
- **High quality carbides with Teflon**

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

Type	Solution	Characteristics
<b>Chromium carbides</b>	<b>HanneSpray Cr</b> <i>(PikoChrome)</i> 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> <li>• Max temperature resistance: 900°C</li> </ul>
	<b>HanneSpray Cr Plus</b> <i>(PikoChrome Plus)</i> 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> <li>• Max temperature resistance: 900°C</li> </ul>
<b>Tungsten carbides</b>	<b>HanneSpray W</b> <i>(PikoCal)</i> 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> <li>• Max temperature resistance: 500°C</li> </ul>
	<b>HanneSpray W Plus</b> <i>(PikoCal Plus)</i> 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> <li>• Max temperature resistance: 500°C</li> </ul>
<b>Carbides + 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> <li>• Max temperature resistance: 210°C</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 Plus below)</li> <li>• Feasible on site</li> <li>• Max temperature resistance: 400°C</li> </ul>

## OUR HANNECARD BENEFITS

HVAF coatings are very dense, tough and show compressive residual stresses, 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
- No hydrogen embrittlement
- 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)

Next to that Hannecard offers:

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

### NEED MORE INFORMATION ?

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