



HP HVAF Thermal Spray

THERMAL SPRAY FOR INDUSTRIAL & PAPER APPLICATIONS

Hannecard offers the following thermal spray technologies in Europe:

- HVAF: High Velocity Air Fuel
- HVOF : High Velocity Oxygen Fuel
- Flame : Acetylene + oxygen combustion

These processes consist of projecting metallic and carbide materials, in powder form, at very high speed onto the surface of the roller and are used for protection against abrasion, corrosion, surface repair and for chemical protection.

These 3 technologies allow us to offer a very wide range of coatings that meet most stringent demands all different industries.

HVAF: the latest generation of supersonic processes

For HVAF, the use of air instead of oxygen (like for the HVOF process) makes it possible to optimize the spraying speed and temperature and therefore reduce the alteration of materials during the spraying. This leads to compactness, hardness and optimal composition of the coatings. This process offers a significant advantage for the production of dense, high-quality protective coatings for demanding industrial applications.

HVOF: high-speed thermal spraying

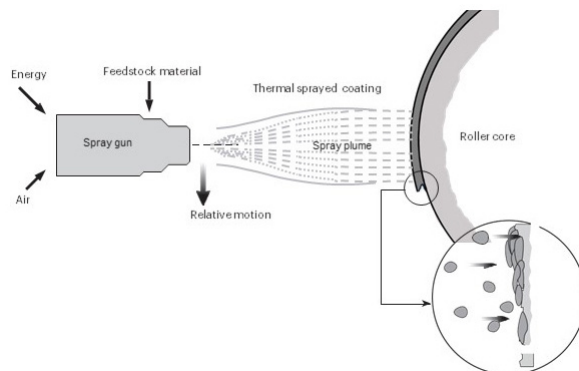
HVOF thermal spraying is a supersonic flame spraying process. It offers excellent adhesion to the support, as well as low porosity of the deposit. This makes it possible to obtain excellent mechanical properties of the coating: high density, strong adhesion, very good resistance to wear and corrosion.

Flame: A robust and economical process

Flame spraying is a simple and robust thermal process allowing, for example, to carry out localized repairs or to produce surfaces with very high roughness.

PRODUCTION CAPACITIES :

	HVAF	HVOF FLAME
total length	10 000 mm	< 3 800 mm
length table	8 760 mm	
Dia Ø	from 1 800 til 2 000 mm	< 500 mm
max weight	32 tonnes	< 500 kg





Thermal spray cabin

PRODUCTION

Production capacities range from:

Diameter until 2 000 mm, length until 10 000 mm and a maximum weight of 32 tons for HVOF technology.

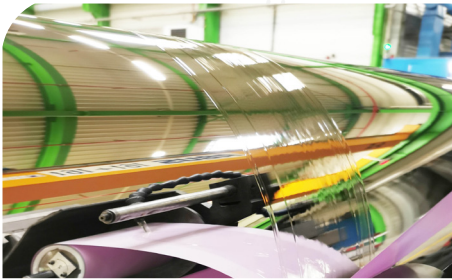
OUR HANNECARD SOLUTIONS

Hannecard offers several types of thermal spray coatings:

- **Chromium carbides**
- **Tungsten carbides**
- **Carbides with non-stick finish**
- **Carbides with specific finish**

All our solutions are available in a "Standard" version or in a "Plus" version. The advantage of the "Plus" version is that it uses optimized powders to obtain greater hardness and better resistance to corrosion and abrasion.

Type	Solution	Characteristics
Chromium carbides	HanneSpray Cr Hardness up to 900 HV Roughness: from 0,05 til 12 µm	<ul style="list-style-type: none"> • Good resistance to corrosion • High thickness possible • Max temperature resistance: 900°C
	HanneSpray Cr Plus Hardness up to 1 100 HV Roughness: from 0.05 til 12 µm	<ul style="list-style-type: none"> • Optimum corrosion resistance • Good resistance to abrasion • Food contact certification (EU & USA) • Max temperature resistance: 900°C
Tungsten carbides	HanneSpray W Hardness up to 1 100 HV Roughness: from 0,05 til 12 µm	<ul style="list-style-type: none"> • Non-stick solution • Strong adhesion to the substrate • High thickness possible • Max temperature resistance: 500°C
	HanneSpray W Plus Hardness up to 1 400 HV Roughness: from 0,05 til 10 µm	<ul style="list-style-type: none"> • Optimum abrasion resistance (very high hardness) • Better resistance than the Hannespray W to corrosion • Max temperature resistance: 500°C
Carbides + non-stick finish	Carburflon NG Color: charcoal grey Roughness: +/- 3 µm	<ul style="list-style-type: none"> • Good resistance to abrasion • Low wettability • Good scratch resistance • Very good anti-adhesion • Food certificate (If Hannespray Cr Plus is used as underlay) • Max temperature resistance: 400°C
High roughness carbides	HanneSpray HR Hardness up to 1 100 HV Roughness: from 10 til 24 µm	<ul style="list-style-type: none"> • Good abrasion resistance • Specific coating for applications that require exceptional grip • Possibility of anti-fouling finish • Maximum temperature resistance: 500°C



Mirror finish coating

APPLICATIONS AND REFERENCES

Steel industry: furnace roller, S-block, deflector, pick-up, gripper, metering roller, counter-brush roller

Stationery: Calender, dryer, winder carrier

Plastic film: Extrusion calender, deflector, cutting counterpart, winder

Food industry: dryer

Fabric and cardboard: High roughness drive roller

Wood: pick-up

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HANNECARD BENEFITS

Carbide coatings are very dense, resistant and have residual compressive stresses. This makes it possible to apply thick layers. Compared to hard chrome, the advantages of our coatings are:

- Abrasion resistance up to 10 times higher
- Highest hardness (up to 1 400 HV)
- Extreme adhesion of the coating to the substrate
- Excellent corrosion resistance
- Possibility of applying thick layers
- Possibility of very high roughness
- No use of Cr6+ (carcinogenic product will be banned very soon)
- Food certification (Hannespray Cr Plus and Carburflon NG)
- Possibility of applying a non-stick finish

In addition to this, Hannecard offers:

- A complete service from A to Z (new rollers + spraying)
- Repair of bearing seats
- Repair of surface defects with carbide undercoat (up to 1 mm) or by welding for larger defects
- Balancing
- Possibility of specific geometries (rown, cylindrical-biconic)

NEED MORE INFORMATION ?

For more information, please contact your local Hannecard partner or visit our website at:

www.hannecard.com