

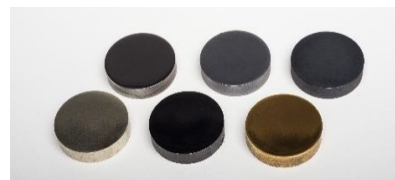
# HIGH QUALITY MEDICAL PVD & PECVD COATINGS

## DLC (several), TiN, TiCN, CrN, ZrN, AlTiN, TiAlN, Ag BASED, Ti & OTHERS DONE RIGHT AND DONE ON TIME!

Our goal is to supply our customers with engineered biocompatible PVD and PECVD coatings at economical prices and unsurpassed service.

### COATINGS

- We offer a wide range of medical PVD and PECVD coatings for medical implants, instruments & devices.
- With an extensive research and development team, we can develop innovative and customized medical coatings.
- We provide coatings that :
  - Reduce friction & provide low reflectivity (increases instrument usage comfort)
  - Provide high surface hardness for:
    - Superior edge retention on surgical instruments
    - Wear and abrasion protection (increases instrument lifespan)
  - Are barrier coatings for ion release and protect instruments from alkaline, acidic & saline fluids as well as offer autoclave protection.
  - Provide hypoallergenic, anti-bacterial non-tarnishing, conductive properties.
  - Offer biocompatibility per ISO 10993- 1.
  - Provide color differentiation
- Coatings can be mono or multilayer coatings depending on their requirements.
- Hard and soft masking options are available.



Some Coatings	Hardness (HV)	Frictions Coefficient	Corrosion Resistance	Wear Resistance	Max Service Temp	Color
DLC (several)	2000-3200	0.07 – 0.15	Excellent	Good	350°C	Grey-Black
TiN	2200	0.5	Good	Excellent	525°C	Gold
CrN	1500	0.5	Excellent	Good	700°C	Silver-Grey
AlTiN	3600	0.6	Good	Excellent	750°C	Dark Grey
ZrN	2500	0.5	Good	Excellent	600°C	Light Gold

## CUSTOMER SUPPORT

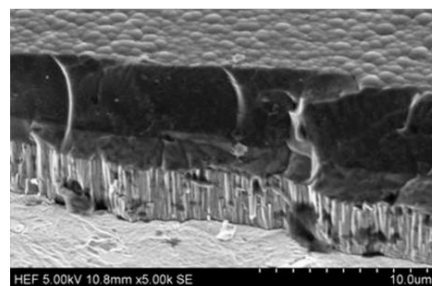
- We offer professional customer support and project management with responsive, technically competent, and efficient sales engineers and customer service teams.
- We can function as a Tier 1 or Tier 2 supplier.
  - We work with small shops to large OEMS.
- For larger Tier 1 programs TS can offer stock management based on your productions needs (We can work through your EDI portals or can customize services)

## PRODUCTION & QA Environment

Our plant has 20+ cutting edge high capacity coating machines employing Cathodic Arc, Sputtering or PECVD technologies.

### WE OFFER:

- Small and Large capacity coating services (No job is too big or too small)
- Global and domestic reserve capacity
- Focus factory processing in segregated medical cells
- Customer or application dedicated staff handling your parts
- Controlled atmosphere / environment work rooms
- Automated and manual cleaning lines
- Dedicated fixturing and masking design and production. Hard and soft masking options available
- Post coating clean parts
- Rapid turnaround : Typically 2 – 5 days
- Complete analytical capabilities allowing our engineering staff to work with you to evaluate your instruments for your application.
- Our metallurgical laboratory has advanced equipment to ensure coating and substrate integrity. e.g. Scanning electron microscope with EDS capabilities, dynamic nano-hardness indenter, calotester, scratch adhesion measurement, Surface roughness measurement system and tribometer for initial wear evaluation, etc.
- ISO QA system
- 30 years record keeping



### Contact

#### HEF headquarters

ZI Sud, Avenue Benoit Fourneyron  
42160 Andrézieux-Bouthéon  
Tel: +33 4 77 55 52 22  
Fax: +33 4 77 55 52 00  
[sales.france@hef.fr](mailto:sales.france@hef.fr)

[www.hef.group](http://www.hef.group)