

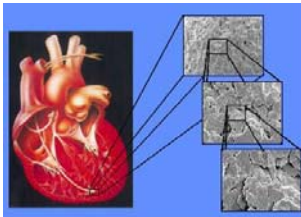
Materials and Surfaces  
**PVD Thin Film Technology**

**Sulzer Innotec**

Sulzer Innotec offers you support for the optimisation of your component surfaces. Tailored to your specific needs, we offer solutions and consultancy for special applications, coating development and small batch production. Competent service from design to finished product is guaranteed.

Sulzer Innotec's Physical Vapour Deposition (PVD) coatings provide: service time enhancement, reduction of friction and wear, corrosion protection and biocompatible surfaces.

**Medical technology**



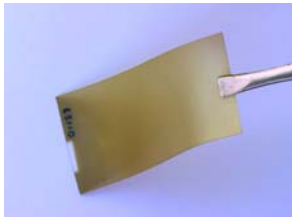
*HyFraSurf coatings for pacemaker electrodes*

**(Micro-) Mechanics**



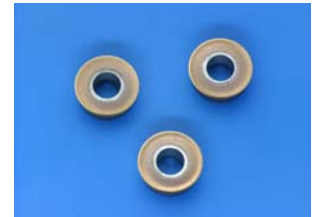
*PVD-Titaniumoxide coating for textile machines*

**Polymers**



*PVD-DL-coating on polymers for reduction of friction and wear*

**Tools**

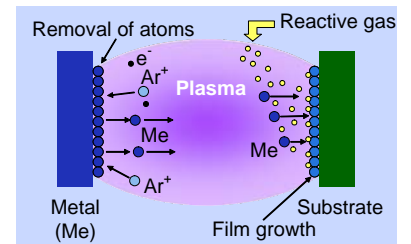


*PVD-TiSiN coating on cutting tools for service life enhancement*

PVD is a well known method for high quality surface optimisation. PVD Magnetron sputtering, used at Sulzer Innotec, offers smooth and dense coating structures and low workpiece temperatures.

**The Principle of PVD Magnetron Sputtering**

Metal is evaporated ("sputtered") in a vacuum chamber by bombardment with Argon ions, thus creating a metal vapour. The workpiece (substrate) to be coated is moved into this vapour and a thin film is deposited. By adding reactive gases, it is possible to deposit coatings of metal oxides, nitrides and carbides or of the respective mixtures.



**Advantages**

- Low workpiece temperature
- Multilayer films possible
- Dense film structure
- Good adhesion
- Preservation of original surface structures

**Some Applications**

- Friction, corrosion and wear reduction for machine parts
- Service life enhancement of tools
- Biocompatibility of materials in medicine
- Optical properties and possibility to sterilise medical tools
- Surface modification of polymers



*Sulzer Innotec's PVD Magnetron Sputtering Facility*

We are constantly expanding the range of applications of our PVD thin films.

