

MPP THIN FILM COATINGS

MPP specializes in the field of thin protective glasslike coatings obtained by a patented combination of advanced high voltage sputtering technology at low temperatures 30-150°C (Cold HV-Sputtering) which provides direct deposition of amorphous films. Ranking among the high technologies, "Cold HV-Sputtering" finds successful application in microelectronics, optics, medical, aerospace, machining tools and precision mechanics.

MPP OFFERS OUR CUSTOMERS



Best quality products with precise fine dimensions and excellent repeatability



Flexible Capacity to support customer demand



A comprehensive solution to bring the best cost of ownership



Short Lead Time to satisfy the fast moving microelectronics industry's challenges



Thin Film Coatings General Data



Surface hardening

- Increase wear resistance > Longer life span
- Best for Bonding tools, cutting/machining tools, gears, bearings linear, inserts of plastic molds.

Anti-corrosive coating

- Protects surface in aggressive environmental conditions.
- Best for Optical reflectors (aluminum and silver), different materials glued together (composites, plastics, metals), molds, valves, machining precision parts (mirrors, masks, O-rings, stainless steel covers etc.).

Coating Materials

Ceramic coatings:

- Alumina
- Silica
- Chrome Oxide
- Silicon Nitride
- Aluminum Nitride
- Silicon Carbide
- Titanium Oxide
- Tantalum Oxide
- Tungsten Carbide

Metal coatings:

- Tantalum
- Titanium
- Nickel
- Chrome
- Zirconium
- Palladium
- Gold
- Silver

Applications

- Microelectronics
- Electronics
- Optics
- Medical engineering
- Military
- Precision mechanics
- Machining tools
- Plastic industry
- Aerospace

	MPP		Others			
	I	II	III	IV	V	VI
Process Characteristic	Cold HV-Sputtering	CVD	Evaporation	Magnetron Sputtering	Ion Beam Sputtering	Ion Plating
Source of Energy	Plasma Discharge	Thermal Heating	Thermal Heating	Plasma Discharge	Ion source	Bias Substrate Voltage
Coating Temperature (°C)	30- 150	700-1500	30 - 300	150-200	30- 150	400-500
Particle energy (eV)	10-100	0.5	01-0.5	1-10	10-100	50-500
Gas Pressure (mbar)	10-3	10-1000	10-5	10-3	10-4	10-2
Advantages	Amorphous Film, High Adhesion, Very High Hardness, Very Low Porosity, Low Coating Temperature, Non Expensive equipment	High Adhesion, High Hardness, Low Porosity	Low temperature High Grown Rate	High Grown Rate	Amorphous Film, High Adhesion, Very High Hardness, Very Low Porosity, Low Coating Temperature	High Adhesion, High Hardness
Disadvantages		High Coating Temperature	Low Adhesion, Porosity, Low Hardness	Porosity, Low Hardness	Very Expensive	High Temperature

MPP's technical experts are ready to support you with customized solutions for all application challenges

For more information please visit our website, www.mpptools.com

or contact us directly at sales@mpptools.com