

## VISION

Protec Surface Technologies believes in constant development of new technologies for sustainability and environmental respect.

Close cooperation with customers and a broad experience in plasma coating are key factors for continuous improvement.

Protec Surface Technologies is contributing to reduced energy consumption by using state-of-the-art components.

Innovative solutions, continuous R&D, high quality, and low cost of ownership are the driving forces at Protec Surface Technologies.

## PROTEC SURFACE TECHNOLOGIES

Protec Surface Technologies has designed and manufactured PVD and PECVD coating systems since 1996. We have continuously developed turn-key solutions for thin film coatings in decorative and technical markets. Protec Surface Technologies is an Italian Company belonging to P&P Holding, an international group dealing with PVD coatings activities.

Thanks to broad experience, Protec Surface Technologies supplies advanced solutions from pretreatment to the industrial coating process. Moreover, it supports customers with technical assistance and process support all over the world.

Protec Surface Technologies has offices and facilities strategically located, serving Europe, North and South America as well as Asia and Oceania. Protec S.T. provides creative solutions suitable for both decorative and technical applications.

We offer many types of solutions to adapt to your requirements for decorative and technical applications.

Some of our applications, which we actively support in various markets:

- **DECORATIVE COATINGS**
- **ANTIBACTERIAL/VIRUCIDE/FUNGICIDE COATINGS**
- **DLC TRIBOLOGICAL COATINGS**
- **SECURITY PRINTING**
- **TECHNICAL COATINGS**
- **OTHER COATINGS (medical, petrochemical, technical components, automotive etc...)**

## POWERFLEX SERIES



Powerflex CR is a high performance batch machine platform for decorative and tribological applications.

There are three distinct Powerflex models with different sizes to better match customer requirements.

All Powerflex machines support a wide array deposition technologies, providing customers solutions for today and the future.

### ● PF1100 CR

- Two symmetrical doors;
- Supported Sources: LDE Cathodic Arc, Magnetron Sputtering, Dual Magnetron Sputtering, HiPIMS, Plasma Beam Source;
- ABACO® and IsPRO® capability;
- Useful coating volume  $\approx$  1000x1100 mm.

### ● PF1500 CR

- Two symmetrical doors;
- Supported Sources: LDE Cathodic Arc, Magnetron Sputtering, Dual Magnetron Sputtering, HiPIMS;
- ABACO® and IsPRO® capability;
- Useful coating volume  $\approx$  950x1580 mm.

### ● PF650 CR

- Single front door;
- Supported Sources: LDE Cathodic Arc, Magnetron Sputtering, Dual Magnetron Sputtering, HiPIMS, Plasma Beam Source;
- Useful coating volume  $\approx$  650x650 mm;
- Max. system temp. 550°C.

A compact and innovative machine for both decorative and technical applications.

### ● NANOFLEX 400

- Top Loading;
- Supported Sources: LDE Cathodic Arc, Magnetron Sputtering, Dual Magnetron Sputtering, HiPIMS; Plasma Beam Source;
- ABACO® and IsPRO® capability;
- Useful coating volume  $\approx$  850x400 mm;
- Max. system temp. 550°C.



## INLINE AND CUSTOM MACHINES



The DC700 is a machine specially designed for decorative applications.

### • DECOCOAT 700

- Very Low ownership costs;
- Single front door;
- Supported sources: LDE and RCAE Cathodic Arc;
- Useful coating volume  $\approx$  850x850mm.

Protec Surface Technologies builds custom PVD-PECVD batch or in-line systems. By combining unique technical characteristics and a high productivity level, we strive to satisfy our customer's specific needs.

We are ready to find creative solutions for a wide variety of applications.

### • CUSTOM FLEXLINE SERIES

- High productivity;
- In line production;
- Vertical or horizontal chambers;
- Variable chamber size;
- Variable number of chambers depending on application and productivity requested;
- Plasma activation, LDE Cathodic Arc, Plasma Beam Source or Magnetron Sputtering technologies.

### • CUSTOM BATCH MACHINE

- High productivity;
- Easy maintenance;
- Different deposition technologies;
- Variable useful plasma height.

## COATINGS



### DECORATIVE COATINGS

Decorative thin film coatings, with a layer thickness typically ranging from 0.2  $\mu\text{m}$  to 2  $\mu\text{m}$ , provide exceptional aesthetic features, combined with high durability, guaranteeing a very long life.

Protec Surface Technologies has a wide standard color range available. We are also able to study and create personalized coatings or colors based on a specific customer request.



### COLORS

In addition to the present samples, it's possible to create a variety of finishes in different colors. Finishes are also customizable according to the customer's request.



### TECHNICAL AND DLC COATINGS

Thin film technical coatings usually have a variable thickness from 1 to 6 microns and process temperatures up to 550°C. Technical coatings are used in various fields due to their extreme hardness, good adhesion to the substrate, corrosion resistance, low friction coefficient, and other functional characteristics.

DLC is a family of coatings often customized to customer's needs. Protec S.T. hybrid PVD & PECVD machines, together with proprietary precursors, can grow DLC films very fast and with specific features. Some important characteristics are high hardness, low friction coefficient, and high performance in corrosive environments.



BRILLANT

SATIN / PEARL

BRILLANT

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## RESEARCH & DEVELOPMENT

Research and development is the most important department to support technological innovation and to keep a competitive position in the global market.

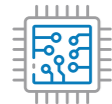
Protec Surface Technologies invests heavily in R&D, working with a national and international network of Universities and Research Institutes.

A Protec Surface Technologies possesses a deep well of PVD process knowledge starting from the substrate preparation up to QA final check. Protec S.T. doesn't offer only the machine but a turn-key ready system.

Protec S.T. offers various PVD & PECVD technologies that can be utilized by its coating systems.

Each system can guarantee best quality, process repeatability, less maintenance, low cost of ownership, and high productivity while always respecting the environment.

Our aim is to grow in the PVD market, we encourage Lab Engineers to find innovative and advanced solutions. Nothing it's impossible. Protec Surface Technologies is structured with 3 Labs dedicated to the products quality and R&D:



### • ENGINEERING LAB

Where engineers study and create innovative hardware solutions.



### • PROCESS LAB

Where process products are realized and optimized in order to supply complete industrial solutions.



### • QUALITY LAB

Staffed with experts and outfitted with a wide range of instruments for characterization and quality control.

## BRANDS



IS-PRO<sup>®</sup> is one of Protec S.T. brands. It distinguishes the coating made by Protec PVD & PECVD coating systems.

These coatings represent a family of proprietary advanced technical and decorative thin films.

Innovation and high quality are the main characteristics of IS-PRO<sup>®</sup> coatings.



ABACO<sup>®</sup> is the ultimate generation of an antibacterial thin film coating family that combines the advantages of strength, durability and beauty of PVD with a proprietary nanotechnology. It provides exceptional antibacterial properties and now antiviral too, specifically against the Coronavirus strain MHV as measured by third-party labs.



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