

Are you in demand of high-quality technological equipment which will enable you and your products the best possible surface protection and extend the lifetime of your products?
Do not hesitate to contact us!

We will be more than happy to find the best solution to meet your individual needs!
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Specialists for surface protection of metals

Modern methods of surface protection of products



Powder coating

Powder coating is **appropriate** for protection of all types of metal products. It ensures **excellent surface protection**, as well as an aesthetic appearance of the product. The most modern powder coating lines are equipped with pre-treatment machines, booths for application of powder coating, paint polymerization ovens, and systems for drying and cooling of the products.

The whole line can be **completely automated**, which is achieved with an appropriate conveyor system. The company SOP - International is characterized by an individual approach to every customer and it customizes the whole technology to the customer's desires and requirements. Each line is therefore adapted and optimized according to the production programme. This enables us the optimal use of the space. Efficient designing of equipment ensures great savings in consumption of energy, while the automatization enables savings in labour costs.

1



Drying and cooling

Before the powder coating is applied, all the components to be treated have to be completely dry and cool. These processes are done in special heaters, which remove the moisture, and then in the cooling tunnels, where the treated objects are cooled to 30 °C, which is the temperature appropriate for the application of powder coating.

Conveyor systems

Reliable conveyor systems are extremely important for a smooth functioning of the painting line. The company SOP - International specialises in all types of conveyor systems (hanging P&F conveyor systems, ground P&F conveyor systems, hanging single conveyors, conveyor tables and hoisting equipment). Our conveyor systems are known as extremely reliable and of high quality, as we are well aware of the fact that a smooth functioning of the paint line is of key importance for every single customer.

Pre-treatment of the products

The pre-treatment process and the preparation of the products to be treated are the two most important factors for the qualitative surface protection. The pre-treatment process takes place in a tunnel, which is designed in a way that enables the degreasing agent to reach the whole surface of the product to be treated. The pre-treatment process is most commonly done either by dipping or by spraying of the product to be treated.

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Application of powder coating

Powder coats are used for powder coating of all types of metal. The powder coating is by far the most ecologically sensible and is therefore the most frequently used metal surface protection method. The most common way of applying the powder coating to metal objects is an electrostatic application, using an electrostatic gun charged up to 120 kV. When the powder leaves the gun, it adheres on the whole surface of the object due to the difference in the potentials. The powder coating process has zero or very low losses as the cyclones and filters recover the lost powder and enable it to be re-used. According to our customer's selection and desires, we supply the powder application booths from the internationally recognised manufacturers such as Wagner, Nordson, Gema, etc.

5



Polymerization or curing

Once the powder is applied onto the object, it has to be cured, which is done in the polymerization oven. The polymerization process is usually done at the temperatures around 180°C and lasts for approximately 30 minutes. However, the curing temperature and time depend on the requirements of the paint suppliers. Once cured, the conveyor transports the objects into the cooling tunnels where they are cooled to temperature, which is appropriate for their unloading.

6



Ecology

The company SOP - International pays great attention to ecology! All waste waters from the product pre-treatment process are purified with waste water treatment plants and discharged back into the environment. When you are deciding among different technologies select such that is not harmful to the environment.

Advantages of powder coatings:

- Up to 95% powder utilisation;
- Environmentally friendly process as powder coats do not contain organic solvents;
- Resistant to scratches, impacts and atmospheric influences;
- Excellent protection against acids, diluents, corrosion and fading;
- Very good colour and gloss retention;
- Rapid change of colours;
- Wide range of colours, glosses, textures and colours with effects;
- Up to 250 µm of layer thickness.



The nature will appreciate it!