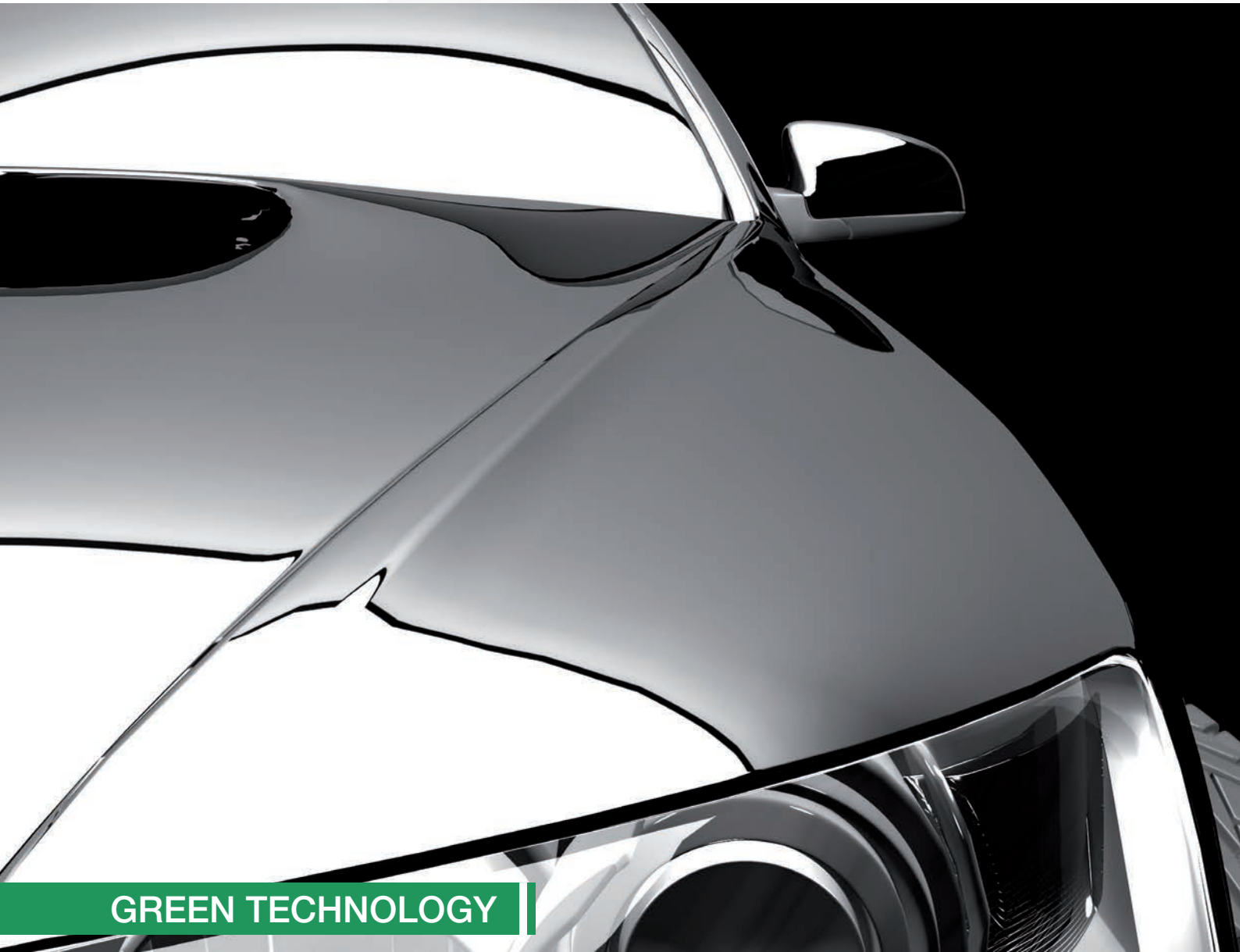




PVD SPUTTERING

NEW ERA OF CHROME COATING



GREEN TECHNOLOGY



PVD - PHYSICAL VAPOR DEPOSITION

Chrome plating is the ideal coating to ensure both superior mechanical performance and an attractive metallic appearance, trendy, increasing the perceived value.

To overcome the limits of traditional chromium plating, **Kolzer** developed CLEAN CHROME PLATING by vacuum sputtering technology.

This process adopts a physical and not a chemical process, therefore eliminating any harmful emissions.

The performance benefits are considerable:

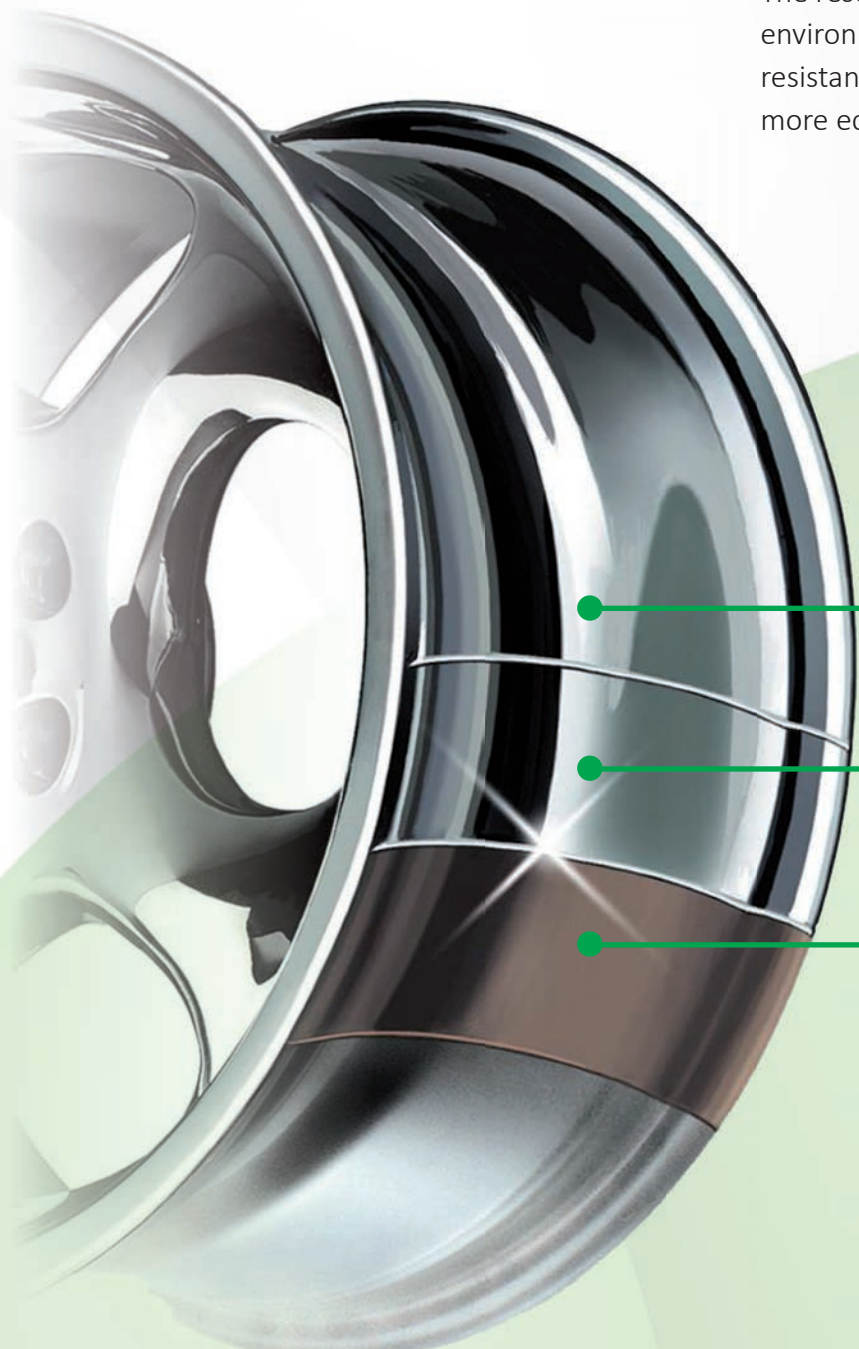
environmental: clean process at room temperature, without water, totally free of chemical emissions

aesthetic: brilliant metallic finish, vast array of colors and polish variations

functional: durable, high hardness, abrasion and corrosion resistant

productivity: extremely economical and short machine cycles, high repeatability, diminished imperfections.

The result, **Kolzer PVD** machines produce environmentally friendly pieces that are more resistant and therefore make end use products more economical.



TOPCOAT UV varnish (optional):

It provides protection to the metal layer and increases its performance

METAL PVD:

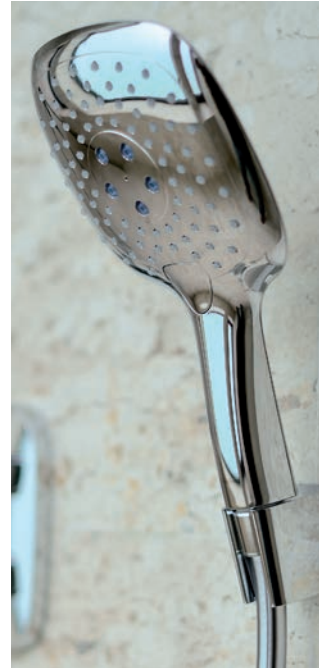
Any metal or alloy: Stainless Steel, Chromium, Titanium, Copper, Brass, Silver, Aluminium, Nickel-Chrome and many others

BASECOAT UV varnish (optional):

It seals and improves substrate hardness. It levels eliminating imperfections, improves adhesion and provides brightness

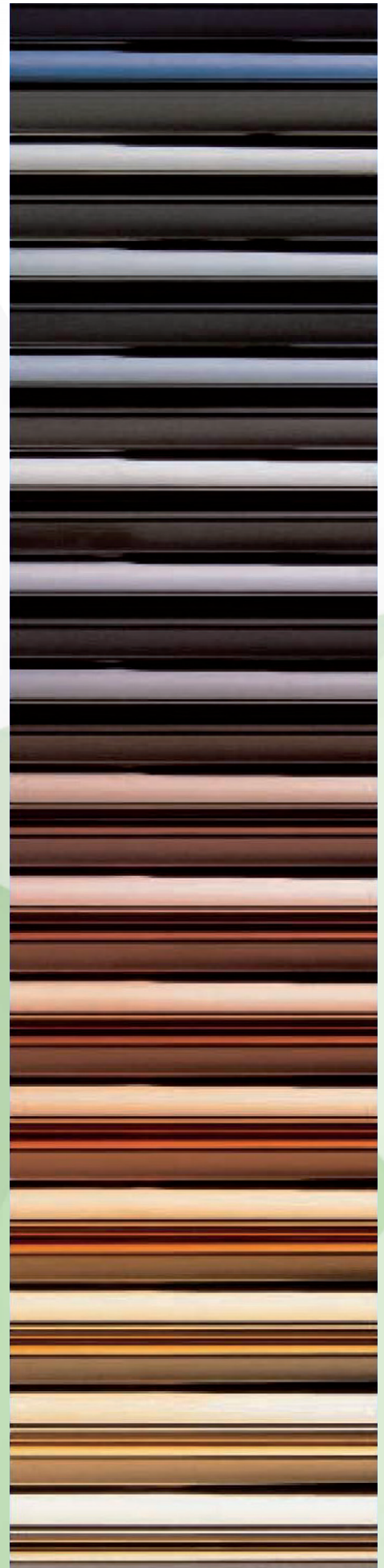
PVD APPLICATIONS

- Automotive
- Home Appliances
- Packaging
- Lighting
- Bathroom fixtures
- Fashion
- Design



PVD BENEFITS

- Environmentally friendly
- Uniform deposition
- Low temperature
- Repeatable
- Multilayer
- Adjustable thicknesses (semi-transparent, full coverage, high thickness)
- Clean Chrome
- No harmful waste
- Functional capacities: transparency to RF, EMI shielding, semi-transparency
- Vastly quicker production time when compared to traditional toxic chrome plating
- Small production footprint
- Minimizes the need for outsourcing
- Maintains the elasticity/flexibility of the piece
- Any material can be coated
- Greater flexibility in the design of the pieces
- Wide range of finishes: colours and brightness, glossy and matt
- Large variety of substrates
- Recyclable





CRITICAL FACTORS FOR SUCCESS

Substrates have added **resistance to**

- humidity
- thermal shocks
- chemical agents
- corrosion
- impact
- abrasion
- weathering

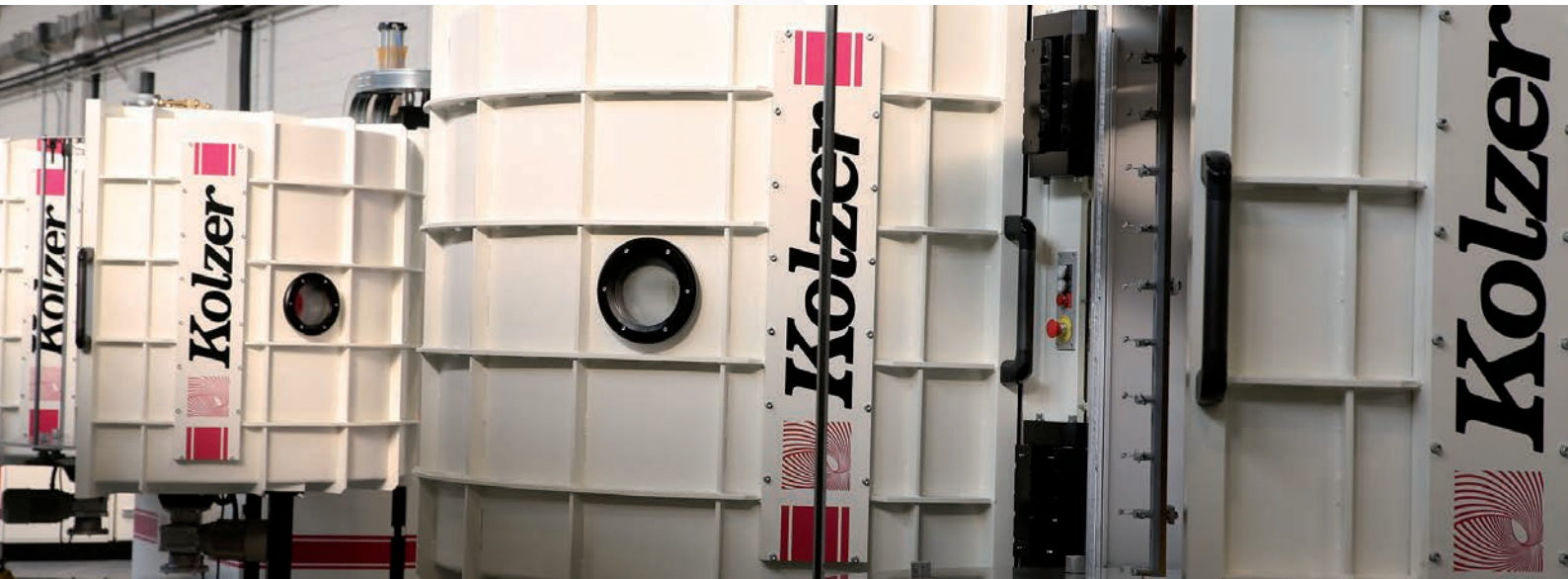
The **process cycles** are **very fast**, with an extraordinary efficiency resulting in an economical “**green**” **production**.

The UV + PVD combination is **safer**, more **economical** and **environmentally friendly** than electroplating.

It requires just a **few steps** and passes the toughest **OEM requirements**.

It enables engineers and designers to have **greater flexibility and choice** in product **design**.

PVD PLANTS



The Kolzer machines are simple to use and provide advanced PVD sputter coating results. They are automated, digitised and even remotely manoeuvrable. The machine integrated with an UV painting line, offers high volume production in a pressurized chamber, in line with the customer's specifications and with diminished production waste.

The history of the production cycles are saved automatically, allowing their recall and execution at any time. They allow full control of the production line: the process parameters and recipes are provided by Kolzer. The remote service allows access to process controls, managing and loading new parameters.

DGK36"



All User Friendly **Kolzer PVD Technology** has a facilitated **"price entry"**.

The DGK model allows to have an excellent coating result with very fast cycle times. The machine is supplied with dual loading trolleys to facilitate loading and unloading. These can be easily integrated within the UV coating plant.

MK63"



The MK machine is a symbol of innovation, practicality and design. By dual loading and unloading, manual or automatic directly on the doors to the ease of use of the Windows software, the entire production cycle is fast and free of complexity.

This vertical PVD Sputtering plant offers a PVD Plasma PECVD technology "combined" into a single machine, able to achieve maximum flexibility and creativity.

ENJOY PVD TECHNOLOGY

Kolzer offers qualified Engineering for the supply of equipment, from the “compact productivity station” for small and medium-sized companies, to special plants and in line processes for high volumes or articles of large dimensions.

Why a PVD sputtering KOLZER plant?

- Great service efficiency through ease of loading/unloading and low maintenance
- Massive production by maintaining a low power and materials consumption
- Plasma, PECVD and PVD sputtering processes available on all plants
- Steel machined chambers, designed and manufactured to last over time
- Global network of Consultancy, assistance and prompt after-sales service
- 2 years guarantee and minimum guaranteed working life of 12 years
- Windows operating system with Internet 24/7 service
- The fastest certified cycle times on the market
- More than 1,000 plants installed worldwide
- High productivity with a single operator
- Totally “Eco-friendly” processes
- Space-saving design

Low operating costs and faster production cycles currently available on the global market, ensure the KOLZER machines the highest industry standards, at the most competitive costs.





CUSTOMER SERVICE



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