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UV CLEAR COAT SYSTEMS FOR PVD

YOUR ADVANTAGES AT A GLANCE

- **Increased productivity:** manufacture without buffering and with short cycle times thanks to UV-curing in a matter of seconds
- **Flexibility:** straightforward handling of the lacquer as there are no pot life limitations; rapid onward processing of components thanks to rapid curing
- **Reduced space requirements and fewer workplace health and safety measures:** smaller size of drying equipment and no need for exhaust venting
- **Less environmental impact:** low-VOC coating solution with low energy consumption for venting and heating workpieces; conservation of resources as waste avoided during all processing stages
- **Permanent retention of high-grade plastic surface:** adhesive properties and resistance levels remain high throughout the product's entire life cycle
- **Wider range of applications:** coating of temperature-sensitive substrates possible

DURABLE HIGH-GLOSS CHROME LOOK – THE ECO-EFFICIENT SOLUTION

Providing a chromed finish for plastic substrates by means of PVD coating is becoming more and more popular as an alternative to environmentally critical and time-consuming galvanic plating. With **Berlac® UV clear coat systems for PVD-metallised surfaces,** Berlac AG has launched a complete 1-component system with significantly reduced solvent content which can be used with the environmentally friendly process of physical vapour deposition for achieving high-grade chrome surfaces to create a combined process that is consistently sustainable and cost-effective and can be used inline. Specifically designed for PVD technology, the **mono-cure UV clear coat system,** consisting of primer and topcoat, combines the advantages of rapid UV-curing with surface properties in respect of gloss level and resistance to scratching and aggressive media that are superior to conventional PUR coatings, while at the same time ensuring toughness and resilience.

TECHNOLOGICAL DESCRIPTION

The base component in the combined coating process consists of a UV-curing primer to eliminate imperfections in the polymeric workpiece and to provide enhanced adhesion for the PVD coating that is applied in a vacuum during the subsequent processing stage by means of magnetron sputtering. The final surface finish with the UV-curing topcoat protects the wafer-thin metal layer of just 0.1 to 0.3 micrometres from chemical and physical impact and guarantees a durable and attractive high-gloss chrome effect.

FIELDS OF APPLICATION

The **Berlac® mono-cure UV clear coat system** can be used for decorative purposes wherever a high-grade chrome surface is required but where reasons of economy or legislation preclude the use of conventional electrochemical chrome-plating; for instance, in the sanitary fittings and white goods industry.

TEST RESULTS

Cross cut:	Gt0
Cleaning agents: Mr. Proper, Priel 16 hours RT	OK, no change
Ethanol: 100 double strokes	OK, no change
Water vapour: 70°C 5 hours	OK, no change
Resistance to soap suds: 1% Persil solution, 70°C	OK, no change
Abrasion: Taber test 300 rotations 2.5N abrading wheels CS 10	OK, no change on the substrate

PRODUCT PROFILE

Tested in accordance with:	BSH: Delivery specifications LV 74 A
Binder system:	urethane acrylate
Substrates:	PC/ABS, ABS, various PVD
Application:	• Berlac UV primer for PVD L81.2358.0-10 • PVD coating • Berlac UV clear coat L81.3468.0-10 +6% adhesive supplement
Level of gloss:	high-gloss, 90 GU measured at 20°
Viscosity:	with DIN4 measured at 20°C: 18“ ±1
Special properties:	• above-average scratch and abrasion resistance • excellent resistance to various chemicals • outstanding surface morphology and direct adhesion of the primer to PC and PC/ABS • perfect intermediate adhesion between the UV-curing lacquers and the PVD coating • high level of transparency • very good flow properties • low-VOC formulation
Advantages of UV lacquering over conventional PUR clear coat systems:	• reduction in processing times as lacquer is cured in seconds • rapid onward processing and finishing of workpieces • no pot life limitations • more cost effective thanks to higher processing speeds • reduced emissions thanks to greater solids content • lower energy consumption during curing • less equipment use and lower investment costs • superior surface properties
Approvals:	Ongoing approval process in the sanitary fittings and white goods sector

BERLAC AG – FOR THE DECISIVE ADDED VALUE OF YOUR PRODUCTS

We are founded in 1928, headquartered in Switzerland and a member of the Berlac Group, a globally-active group of companies specialising in the development and manufacture of top-quality solutions for surface coatings and the finishing of PU for various sectors and applications.

As a leading international manufacturer of high-end special and effect coatings for carbon, aluminum, various plastics or metal applications, we supply a wide variety of industries such as automotive, medical technology, sports and leisure, eyewear, sanitary products or watches and jewelry.

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Lacquers and Effects

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