



BERLAC® UV CLEAR COAT SYSTEMS FOR PVD: 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.

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



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Lacquers and Effects

PRODUCT PROFILE

Tested in accordance with:	BSH: Delivery specifications LV 74 A
Binder system:	urethane acrylate
Substrates:	PC/ABS, ABS, various PVD
Application:	<ul style="list-style-type: none"> ● 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:	<ul style="list-style-type: none"> ● 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:	<ul style="list-style-type: none"> ● 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



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

BERLAC AG – COATING SYSTEMS TO GIVE YOUR PRODUCTS STRIKING ADDED VALUE

The production of premium-grade special and effect coatings as well as printing inks for decorative and functional applications on plastic, chromium-plated and metallised substrates, carbon fibre composites, metal and glass has been our speciality since 1928.

Whether you are an industrial contract coater, a tier-one or tier-two supplier coating in-house or an OEM, you will find us your ideal development partner for innovative niche solutions that call for interdisciplinary knowhow and precise adjustment to the processes of all your supply-chain partners. We accompany your innovative surface projects in close collaboration every step of the way from initial concept to technical fine-tuning for series applications on site.

Our comprehensive expertise and experience in manufacturing a product portfolio that ranges from primers through printing inks enables us to supply ideally coordinated integrated solutions (thermal and UV-curing) in the realm of solvent-based and waterborne spray coating systems and industrial screen and pad printing inks. Our innovative solutions for demanding coating tasks – also available in very small batches and for small series production – cater primarily to the following sectors: automotive, spectacle frames, domestic appliances, hearing aids, children's toys, medical technology, sanitary fittings, writing implements, sport, watchmaking and jewellery.

Headquartered in Sissach, just outside Basel in Switzerland, Berlac AG is one of the eight brands that comprise the Berlac Group, a globally-active group of medium-sized companies committed to the development and manufacture of top-flight solutions for finishing and protecting surfaces and for colouring plastics.

