



YOUR ADVANTAGES AT A GLANCE

- **Increased productivity:** higher conveyor speeds resulting in increased machine capacity thanks to UV-curing in a matter of seconds
- **Reduced space requirements:** due to smaller size of drying equipment
- **Flexibility:** rapid onward handling of components is possible thanks to fast UV-curing
- **Less environmental impact:** low-VOC coating solution with lower energy consumption for venting and heating workpieces
- **Wider range of applications:** thanks to combined curing using UV radiation and isocyanate crosslinking for complex 3D components with shadow zones
- **Permanent retention of high-grade plastic surface:** adhesive properties and resistance levels remain high throughout the product's entire life cycle; compliance with the specifications of the German automotive industry (interior applications)

SUSTAINABLE SURFACE PROTECTION THAT CONSERVES RESOURCES

Cost optimisation, eco-friendly processing, greater levels of resistance and impeccable appearance were the challenges confronting Berlac AG when it developed its **dual cure UV clear coat system 082.907.---** for demanding plastics applications. The UV-curing clear coat system unites the advantages of rapid UV-curing with those of isocyanate crosslinking for shadow zones in complex 3D components and is hallmarked by its automotive-quality surface finish. With its significantly lower VOC content, the **Berlac® dual cure UV clear coat system 082.907.---** impressively combines technological progress, environmental protection, industrial safety and economy.

TECHNOLOGICAL DESCRIPTION

The **Berlac® dual cure UV clear coat system 082.907.---** is based on UV-reactive components containing OH-groups. The two-stage curing process is achieved initially by the reaction of NCO-OH groups by means of forced drying for between 7 and 10 minutes at 60–80°C (circulating air or IR) in order to prevent the inclusion of solvents and to ensure curing in the shadow zones that are not reached by UV rays. The workpiece owes its final surface properties to downstream polymerisation which is effected in a matter of seconds by means of UV light and allows immediate onward pro-

cessing of the workpiece. Without losing its performance **Berlac® UV dual cure clear coat 082.907.---** enables a very flexible handling regarding the individual steps within the curing process.

FIELDS OF APPLICATION

Provided substrates are pre-treated correctly as prescribed and relevant processing and application parameters are adhered to, the **Berlac® dual cure UV clear coat system 082.907.---** offers outstanding adhesion on standard plastics. The UV clear coat system with superior surface properties in automotive quality (interior applications) can be used for decorative purposes wherever there is call for a durable and top-quality surface finish that will be subject to heavy use. **Berlac® UV dual cure clear coat 082.907.---** is available in three different gloss versions: high gloss (082.907.100), semi-glossy (082.907.200) and matt (082.907.300). For applications in combination with UV sensitive plastics, Berlac offers the versions 082.907.103/203/303 with tailored UV absorbers. In addition, the Berlac dual cure UV system is available as a transparent pigmentable version piano black for black substrates and as a printable version (082.907.1x0/2x0/3x0). For special applications, such as PA 12 materials, etc., Berlac offers modified formulations.

PRODUCT PROFILE

Article no.:	<ul style="list-style-type: none"> • 082.907.--- standard version • 082.907.-x0 printable version • 082.907.-03 for UV sensitive plastics
Tested in compliance with:	TL 226, DBL 7384
System:	Dual Cure clear coat system
Binder system:	Urethan acrylate
Colours:	<ul style="list-style-type: none"> • Transparent • Transparent pigmentable version <i>piano black</i>, compellingly in combination with black substrate
Substrates:	PA, PC, PC/ABS, ABS, base coat
Application:	Dual Cure UV clear coat 082.907.--- 100:15 with hardener 082.907.080
Level of gloss:	High-gloss / semi-glossy / matt
UV curing:	Curing lamp: medium-pressure mercury lamp, not doped <ul style="list-style-type: none"> • UVA: 550-1220 mJ/cm² / 390-800W/cm² • UVB: 560-1300 mJ/cm² / 400-900W/cm² • UVC: 630-1600 mJ/cm² / 480-1100 W/cm² measured with UV Power Puck 2 IL 393 from EIT
Special properties:	<ul style="list-style-type: none"> • Above-average scratch and abrasion resistance as well as excellent resistance to a range of chemicals • Excellent high gloss look • High level of transparency and very good flow properties • Perfect direct adhesion to plastic surface • Very flexible drying/curing processes: oven/UV, UV/oven, IR/UV, IR/oven/UV, IR/UV/oven • Curing ensured even with complex component geometries
Advantages of UV coating over conventional PUR clear coat systems:	<ul style="list-style-type: none"> • Reduction in processing times as coating system is cured in seconds • Greater economy thanks to shorter cycle times • Lower energy consumption for heating and venting components • Less space required for machinery and lower investment costs • Reduced emissions thanks to low-VOC formulation • Superior surface properties
Approvals:	Standard version: VW: approved / Daimler: approved Transparent pigmentable version <i>piano black</i>: Daimler: approved Printable version: VW: approved

TEST RESULTS

Article no.:	082.907.---
Cross cut (PC, PA, PC/ABS):	Gt 0
Hydrolysis in compliance with TL 226 and DBL 7384 (PC, PA, PC/ABS):	Gt 0 / i.O.
Condensation-water constant atmosphere in compliance with TL 226 (PC, PA, PC/ABS):	Gt 0 / i.O.
Resistance to creams and lotions as per PV 3964 (PC, PA, PC/ABS):	Gt 0 / i.O.
Micro scratch resistance as per PV 3987:	i.O., 88% Restglanz
Scratch resistance as per PV 3952:	i.O.
Hot storage 10 days 90°C (PC, PA, PC/ABS):	Gt 0 / i.O.
Abrasion resistance, Crockmeter 2000 strokes dry:	i.O.
HWT 2 hours 70°C (PC, PA, PC/ABS):	Gt 0 / i.O.
Resistance under temperature in compliance with DBL 738,4Coca Cola / orange juice / Nivea sun cream / Nivea cream / test mixture (PC, PA, PC/ABS):	i.O.

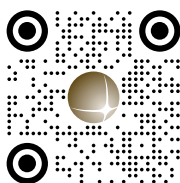
BERLAC AG – FOR THE DECISIVE ADDED VALUE OF YOUR PRODUCTS

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