

# NanoTechnology Made in Germany Automotive



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# Welcome

## to the heights of the Thuringian Forest



GBneuhaus (GBn) is a leading supplier of individual coating solutions that are matched to the customers' needs. We distinguish ourselves from our competitors through continuous innovations. This brings us advantages on the market in terms of techniques and technology. We invest in the latest manufacturing facilities and a high level of automation. Our coating solutions are unique for the relevant customer application.





# NanoTechnology


## changes surface properties

As a specialist for innovative coating solutions, our portfolio covers a wide spectrum of functional and decorative coating systems for a variety of possible applications.

These coatings allow our customers to finish their products in various ways according to their needs. Defined attributes are either created or significantly improved, whereby multiple effects can be combined in one single coating system.

The innovative solutions from GBneuhaus GmbH thus enable a significant improvement of defined criteria such as colour luminosity, colouring, scratch resistance, electrical conductivity, UV-resistance, IR-reflection, temperature stability, water-repellent, antimicrobial or hydrophobic characteristics (non-stick effect – “easy to clean”).





# **SANPURE®** Antimicrobial coating



GBneuhaus GmbH and ras materials GmbH developed in cooperation the peak effective **SANPURE®** coating which combines the distinguished properties of Sol-Gel-Coating with the antimicrobial function of silver nanoparticles. Due to this functionality the reproduction and increase of dangerous multi-drug-resistant germs can be reduced permanently and safely. The active ingredient AGPURE nanosilver has been registered according to EU 528/2012 (Reg. Nr. 29919, Reg. Nr. N-29916).



**SANPURE®**  
ANTIMICROBIAL COATING

# SANPURE®

## Antimicrobial coating

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### SUBSTRATES

- » glass (borosilicate glass, soda-lime glass, quartz glass)
- » ceramics
- » metal (stainless steel, chrome, aluminum)
- » plastics (polycarbonate, PMMA, polyethylene, polyester, polypropylene)
- » other materials on request

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### PROPERTIES

- » lifetime antimicrobial efficiency (ISO 22196 // JIS Z 2801:2010, R-value till >4)
- » reduces the increase of dangerous microbes between cleaning cycles
- » abrasion resistant
- » transparent; colored on request
- » physiological harmless
- » imperceptible by touch, feel and look remains unchanged
- » chemically resistance against conventional cleaning and disinfection agents

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### TECHNOLOGY

- » dip coating
- » spray coating
- » others on request

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### PROCESS DEVELOPMENT

- » in-house research and development at GBneuhauß

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### SERIAL PRODUCTION

- » at GBneuhauß' production facilities
- » after process validation possibility of integration in customer's manufacturing lines, supply of coating material by GBneuhauß

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### APPLICATIONS

- » in hygienically sensitive areas
- » holders, loops, gear knobs
- » touch applications, keyboards, screens



# GBprotect plastics UV UV-protection coating



Plastic components are exposed to the ultraviolet radiation of the sunlight and detrimental chemical substances in the atmosphere. The **GBprotect plastics UV** coating by GBneuhaus affords protection against these hazards as well as it makes sure that high-quality components retain their optical features and maintain their performance.

# GBprotect plastics UV

## UV-protection coating

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### SUBSTRATE

- » plastics (polycarbonate, polymethyl methacrylate [PMMA], polyethylene, polyester, polypropylene a.s.o.)

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### PROPERTIES

- » protection against UV radiation of the sunlight and detrimental substances in the atmosphere
- » specification:
  - › reduction of the short-wave UV spectrum ( $\lambda < 320 \text{ nm}$ ) to less than 1 per cent
  - › reduction of the UV spectrum ( $320 \text{ nm} < \lambda < 350 \text{ nm}$ ) to less than 10 per cent
- » anti-reflective coating within the visible light spectrum on request
- » filter effect within the visible light spectrum on request
- » combinable with antimicrobial (SANPURE®) and/or hydrophobe features
- » customised to specific environmental conditions
- » film thickness within single-digit micrometer range
- » mechanically flexible
- » scratch-resistant and abrasion-resistant
- » no change in haptic quality of substrate

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### TECHNOLOGY

- » dip coating or spraying
- » thermal hardening / UV or IR curing
- » others on request

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### PROCESS DEVELOPMENT

- » in-house research and development at GBneuhaus

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### SERIAL PRODUCTION

- » at GBneuhaus' production facilities
- » after process validation possibility of integration in customer's manufacturing lines, supply of coating material by GBneuhaus





# GBantistatic

## Antistatic coating



Static charges are quite frequently a source of damage and contamination. GBneuhaus provides a range of innovative nano-coatings, including the antistatic application **GBantistatic** particularly for substrates like plastics, glass or ceramics.



# GBantistatic

## Antistatic coating

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### SUBSTRATES

- » plastics (polycarbonate, polymethyl methacrylate [PMMA], polyethylene, polyester, polypropylene a.s.o.)
- » glass (borosilicate glass, soda-lime glass, quartz glass a.s.o.)
- » ceramics

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### PROPERTIES

- » prevention of electrostatic charging on surfaces
- » specification:
  - › specific surface resistance according to DIN IEC 60093:1993-12
  - ›  $R = 100 \text{ k}\Omega - 100 \text{ G}\Omega$  ( $10^5 \Omega - 10^{11} \Omega$ )
  - › transparency > 80 %
- » customised to specific environments and substrates
- » transparent, individually coloured on request
- » combinable with antimicrobial (SANPURE®) and/or hydrophobic features
- » film thickness within single-digit micrometer range
- » mechanically flexible
- » scratch-resistant and abrasion-resistant
- » no change in haptic quality of substrate

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### TECHNOLOGY

- » dip coating or spraying
- » thermal hardening / UV or IR curing

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### PROCESS DEVELOPMENT

- » in-house research and development at GBneuhaus

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### SERIAL PRODUCTION

- » at GBneuhaus' production facilities
- » after process validation possibility of integration in customer's manufacturing lines, supply of coating material by GBneuhaus



# GBprotect plastics AS Scratchproof coating



Components may often lose their high-quality appearance even with little abrasive load. The **GBprotect plastics AS** coating by GBneuhaus prevents such damages and helps to enhance the durability of respective parts.

# GBprotect plastics AS

## Scratchproof coating

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### SUBSTRATE

- » plastics (polycarbonate, polymethyl methacrylate [PMMA], polyethylene, polyester, polypropylene a.s.o.)

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### PROPERTIES

- » protection against abrasive load
- » specification: pencil grading according to ISO 1584 up to 5H (on PMMA)
  - reduction of gloss according to crockmeter test <2 % <sup>(1)</sup>
  - transparency >95 %
- » transparent, individually coloured on request
- » combinable with antimicrobial (SANPURE®) and/or hydrophobic features
- » film thickness within single-digit micrometer range
- » mechanically flexible
- » no change in haptic quality of substrate

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### TECHNOLOGY

- » dip coating or spraying
- » thermal hardening / UV or IR curing
- » others on request

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### PROCESS DEVELOPMENT

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<sup>(1)</sup> change of gloss (at 20 °C) in per cent after 10 double strokes, with 9 µm coarse film, at 9 N load



  
**SANPURE®**  
ANTIMICROBIAL COATING



**GBprotect plastics**



**GBantistatic**

**HYGIENIC**

**PROTECTED**

**CLEAN**



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