



High-gloss
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High-gloss coatings

Hesse  **Lignal**
— Wood Coatings Know-How —

High-gloss lacquers are in vogue!

High gloss surfaces are gaining ground for years now!

No matter, if living-, kitchen- or bathroom furniture is concerned or for the interior finish of ships or for musical instruments, for the colourless coating of precious timbers or opaque as coloured element of design. There is no prospect of an end.

More and more national and international producers want to offer this high-class paintwork.

No wonder, because top class high gloss surfaces provide evidence of highest production competence.

Hesse offers state-of-the-art coating solutions, which are adapted to the carriers, the production facilities and the quality demand, for the handicraft application as well.

Arrange your optimum high-gloss construction from our co-ordinated range of Base coats, Colour- and Brilliant lacquers.

Base coats, colourless:

For pre-priming of porous wood e.g. Mahogany, in order to avoid collapsing of the pore.

IMO-certified

Hesse PUR Isolating primer DG 572

Or for super-fast hardening

Hesse PUR Isolating primer DG 572-1

(application with 2C-spray gun is recommended)

MR 2:1 with hardener DR 440

As base coat with light protector for light and bleached timbers

Decopaint-conform

Hesse Sun-Cape-Base coat DG 416

MR 2:1 with hardener DR 470

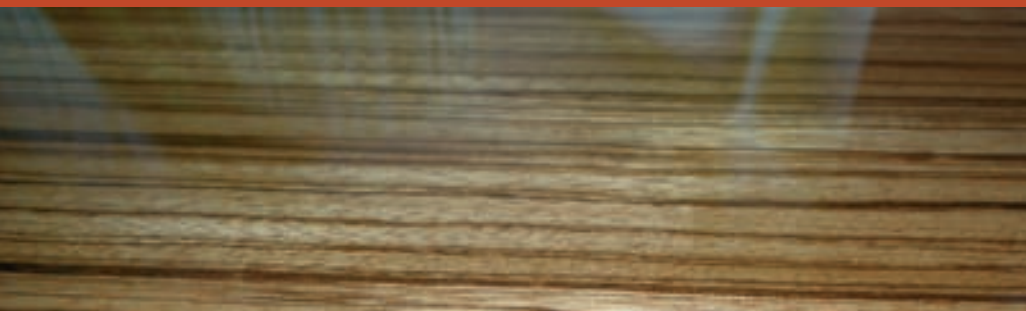
As fast, especially transparent base coat with very good footing also on porous wood, after pre-priming with DG 572 or DG 572-1.

Application with 2C-spray gun is recommended!

IMO-certified

Hesse PUR Base coat DG 468-2

MR 1:1 with hardener DR 439



Base coats, pigmented:

Well filling, stable PUR-base coat for closed-pore preparation of the most different carriers, e.g. MDF- and foiled MDF-boards.

IMO-certified

Hesse PUR Isolating Filler

DP 491-9343

MR 4:1 with hardener DR 405

Well filling, stable HYDRO-PUR Base coat for closed-pore preparation of the most different carriers, e.g. foiled MDF-boards

Decopaint-conform

Hesse HYDRO-PUR Isolating Filler

HDP 540-9343

MR 10:1 with hardener HDR 570

Well filling, thixotrope, especially easy sandable, stable PUR-base coat for closed-pore preparation of the most different carriers, e.g. foiled MDF-boards.

Hesse PUR Acrylic Isolating Filler

DP 492-9343

MR 10:1 with hardener DR 471



Coloured lacquers:

Lightfast PUR Colour lacquer, for application as colour basis under colourless and coloured PUR-Brilliant lacquers

IMO-certified

Hesse UNA-COLOR

DB 555-colour tone

MR 10:1 with hardener DR 470

Lightfast HYDRO-PUR Colour lacquer, applicable as colour basis under colourless HYDRO-PUR-Brilliant lacquers

Decopaint-conform

Hesse HYDRO-PUR Colour lacquer

HDB 655-colour tone

MR 10:1 with hardener HDR 570

Brilliant lacquer, coloured

Pigmented, brilliantly drying PUR-Colour lacquer, applicable for polishing and buffing,

IMO-certified

Hesse PUR-Brilliant Colour lacquer

DB 449-colour tone

MR 2:1 with hardener DR 404

Brilliant lacquer, colourless

High-gloss, especially stable PUR-lacquer for colourless coatings, especially on stained wood.

Applicable for polishing and buffing,

IMO-certified

Hesse PUR-Brilliant lacquer DU 449

MR 2:1 with hardener DR 404

Lightfast, high-gloss PUR-Acrylic Top coat with especially good scratch resistance for the colourless lacquer construction and for finishing of colour- and effect lacquers.

Applicable for polishing and buffing, even after drying over night.

IMO-certified

Hesse PUR-Acrylic Brilliant lacquer

DU 429

MR 2:1 with hardener DR 484

Lightfast, high-gloss HYDRO-PUR Lacquer based on Acrylic-PU-resin. Can be polished and buffed.

Decopaint-conform

Hesse HYDRO-PUR Brilliant lacquer

HDE 599

MR 3:1 with hardener HDR 580

Technical data sheets of the single products are available on request.



**Application example for coloured coatings:
Demand: Sideboard, MDF, foiled, RAL 3003,
high-gloss polished**

1. Pre-treatment of the carrier

- MDF-edges:
Sanding with grain 150-180
- 1 x 120 – 150 g/m² base coating
with Hesse PUR-Isolating filler
DP 491-9343
MR 4:1 with hardener DR 405
+ 5-10% thinner DV 494
- Drying for 3-4 hours
- Sanding with grain 320-400
- Surface sanding with grain 400

**2. Base coating of the
complete surface:**

- 1 – 2x 150 – 200 g/m² with
Hesse PUR-Isolating filler
DP 491-9343
MR 4:1 with hardener DR 405
+ 5-10% thinner DV 494
- Drying for at least 24 hours,
better 3 days
- Sanding with grain 400-600

**3. If required, intermediate coating
with PUR Colour lacquer**

- 1 x 100 – 120 g/m² with
Hesse PUR Colour lacquer
DB 555-3003
MR 10:1 with hardener DR 470
+ 25-35% PUR Thinner DV 494
- Drying 30-60 min/RT 20°C

4. High gloss:

- 2 x 100 – 170 g/m² wet-on-wet
application (20-30 min. intermediate
drying) with Hesse PUR-Brilliant
Colour lacquer DB 449-3003
MR 2:1 with hardener DR 404
10-20% Thinner DV 4935 (winter)
or DV 4962 (summer)
- Drying for 72-96 hours

5. Plain sanding and polishing



**Application example for colourless coatings:
Demand: Upmarket interior finish, mahogany,
stained, high-glossy polished**

Pre-treatment of the wood:

- Graduated sanding of the raw wood with grain 150-180
- Staining with e.g. BE 15-20400 and wiping off
- Drying at least for 2 hours RT/20°C

2. Isolation:

- 2 x 120 – 200 g/m² wet-on-wet (20 min. intermediate drying) with Hesse PUR-Isolating primer DG 572-1 MR 2:1 with hardener DR 440 + thinner DV 494, if required
- Drying for at least 2 hours RT/20°C Sanding with grain 320

3. Base coating:

- 3 x 150 – 200 g/m² wet-on-wet (30 min. intermediate drying) with Hesse PUR Base coat DG 468-3

MR 1:3 with hardener DR 438 + 20-80% PUR Thinner DV 494 (winter) or DV 4981 (summer) on the lacquer only

- Drying 16-20 h/RT 20°C Sanding with grain 320
- 3 x 150 – 200 g/m² wet-on-wet, see above

Hint:

The numbers of base coats and the application quantities depend on the particular quality demand and the kind of wood. The more porous the wood, the more base coats must be applied. Up to 12 coats 150-200 g/m² each are possible. Up to 5 coats per day can be applied wet-on-wet. Subsequently the surface must dry for at least 16 hours, followed by sanding with grain 320.

The ready base coat should look completely plain before the last sanding!

Drying after the last base coat 48 hours. Graduated sanding with grain 400/ 600

4. High gloss:

- 2 x 120 – 200 g/m² wet-on-wet application (20-30 min. intermediate drying) with Hesse PUR-Brilliant lacquer DU 449 MR 2:1 with hardener DR 404 10-20% Thinner DV 494 (winter) or DV 4981 (summer)
- Drying for 72-96 hours

Plain sanding and polishing



Application example for colourless coatings: Demand: Doors (Decopaint-conform) Maple, bleached, high-glossy polished

Pre-treatment of the wood:

- Graduated sanding of the raw wood with grain 150-180
- Bleaching with Hesse Bleaching agent WWW 224, MR 20:1 with Activator HWB 202
- Drying at least for 72 hours RT/20°C
- Slight sanding with sanding sponge grain 150

Base coating:

- 1 x 130 g/m² with Hesse SunCape-Base coat DG 416 MR 2:1 with hardener DR 470 + 10% thinner DV 499
- Drying for at least 16 hours RT/20
- Sanding with grain 280-320
- 1 x 150 – 180 g/m² with Hesse SunCape Base coat DG 416 MR 2:1 with hardener DR 470
- Drying for at least 48 hours

Hint:

The numbers of base coats and the application quantities depend on the particular quality demand and the kind of wood. The more porous the wood, the more base coats must be applied. Up to 4 coats 130-150 g/m² each are possible. Subsequently the surface must dry for at least 16 hours, followed by sanding with grain 320. The ready base coat should look completely plain before the last sanding! Drying after the last base coat: 48 – 72 hours, max. 5 days, graduated sanding with grain 400/600.

3. High gloss:

- 2 x 100 – 120 g/m² in intervals of 3-4 hours intermediate drying with Hesse HYDRO-PUR Brilliant lacquer HDE 599 MR 3:1 with hardener HDR 580 + 20% water
- Drying for 72-96 hours

4. Plain sanding and polishing



**Application example for coloured coatings:
Demand: Kitchen, VOC-reduced, MDF, foiled, RAL 7035, mat
and with high-gloss accents of the same colour**

1. Pre-treatment of the carrier

- MDF-edges: Sanding with grain 280
- 1 x priming with Hesse PUR-Isolating filler HDP 540-9343 MR 7:1 by volume or 10:1 by weight with hardener HDR 570 + 5% water
- Drying at least for 4 h/RT 20°C

2. Base coating of the complete surface:

- Sanding of surface and edges with grain 280/320
- 1 x 120 – 180 g/m² with Hesse HYDRO-PUR-Isolating filler see left side
- Drying for at least 16 h/RT 20°C
- Sanding of surface and edges with grain 320/400

3. Colouring

- At least 1 x finishing with 110 – 130 g/m² of Hesse HYDRO-PUR Colour lacquer HDB 655-7035 MR 10:1 with hardener HDR 570 + 5% water
- Drying at least for 16 h/RT 20°C

4. High gloss finish:

- Plain the parts, which shall be coated high gloss
- graduated with grain 400/600/1000
- 1 x finishing with 100 – 200 g/m² Hesse HYDRO-PUR Brilliant lacquer HDE 599 MR 3:1 with hardener HDR 580 + 20% water
- Drying for at least 3-4 h/RT 20°C
- 1 x finishing with 100 – 200 g/m² Hesse HYDRO-PUR Brilliant lacquer HDE 599 MR 3:1 with hardener HDR 580 + 20% water
- Complete drying at least for 72 h at 20°C

5. Plain sanding and polishing



**Application example for coloured coatings:
Demand: Accents in the field of interior decoration, MDF,
foiled, Multicolour effect, high-glossy polished**

1. Pre-treatment of the carrier

- MDF-edges:
Sanding with grain 150-180
- 1 x 120 – 150 g/m² base coating
with Hesse PUR-Acrylic Isolating filler
DP 492-9343
MR 10:1 with hardener DR 471
+ 10% thinner DV 494
- Drying for 3-4 hours
- Sanding with grain 320 – 400
- Surface sanding with grain 400

**2. Base coating of the complete
surface:**

- 1 – 2x 150 – 200 g/m² with
Hesse PUR-Acrylic Isolating filler
DP 492-9343
MR 10:1 with hardener DR 471
- Drying for at least 24 h,
better after 3 days
- Sanding with grain 320/400

3. Effect coating

- 1 x finishing with 130 – 150 g/m²
Hesse PUR Colour lacquer DB 655-
9005 black
MR 10:1 with hardener DR 470
- Drying at least for 16 h/RT 20°C
- Sanding with grain 400
- 1 x regular finish with 80 – 100 g/m²
Hesse PUR-Effect lacquer,
Multicolour DU 45457-99062
MR 10:1 with hardener DR 470
- Drying for 2 – 3 hours

4. High gloss finish:

- 2 x finishing wet-on-wet (10 – 60
minutes intermediate drying)
with 100 – 120 g/m²
Hesse PUR-Acrylic Brilliant lacquer
DU 429
MR 2:1 with hardener DR 484
+ 20% thinner DV 4935
- Drying for at least 24 h

5. Plain sanding and polishing

Preparatory work

In order that the high-gloss coating is successful, many things have to be considered beforehand:

Object and condition of the object

Carrier material

Stipulated lacquer system

Colour

Technical equipment and

Application possibilities

Time factor and complexity of the paintwork

According to these in this order defined criterions, the required coating materials and working procedures must be chosen and specified.



Object/Requirements

The more high-grade and the more plane the surfaces shall be, the more complex are the coating-, sanding and polishing operations. Accordingly the processing time will be extended. Absolutely plane and dust-free surfaces can only be produced by subsequent polishing. On three-dimensional objects this is particularly time-consuming. In case of inside coatings of ships, non-switched building parts, public buildings, kitchens, etc., there are special demands made on the surfaces (low flammability, IMO certification, Chem-VOCFarbV, surface resistance), which should be considered when choosing the coating materials.

Carrier material

By using the colourless high-gloss coating, the lacquer construction depends on the kind of wood, e.g. mahogany with its perforated pore needs a very fluid material as first primer in order to fill the pores, e.g. an insulating filler (viscosity 11s/ DIN4/ 20°C).

For most timbers, a pre-insulation for assuring the varnish's adhesion is necessary. For pigmented constructions it is advisable to choose a dimension-stable carrier, e.g. foiled instead of raw MDF panels, to prevent a later sagging of the coating.

Lacquer system/Colour

High-gloss coatings can be produced on different lacquer bases (PUR, Hydro, UPE, UV). Sometimes, object-related requirements made on VOC-release must be observed or there are other exceptions regarding the choice of the coating materials, which are requested by the client.

If no specific requirements must be considered for selecting the lacquer system, the most favourable coating, attuned to carrier and local application- and drying conditions, should be chosen.

Because of their high brilliance, darkly stained surfaces or dark kinds of wood require special clear, accentuating primers. Bright, wood-foreign stained or bleached timbers need special lightfast lacquer systems, maybe equipped with sun-protectors.

In case of pigmented coatings, dark full tones must be handled very carefully; black high-gloss surfaces must be principally polished.

Time factor / Technical equipment / Application means

After definition of the requirements specification of object, carrier and lacquer system, the timetable should be arranged and co-ordinated with the customer, considering the locally existing application- and drying possibilities and other technical equipment like sanding and polishing machines. Depending on carrier material, lacquer construction and quality demand, 7 to 14 days must be scheduled for production of a polished high-gloss surface. In case of missing technical equipment or limited production capacities some items may be outsourced beforehand.



Recommended technical equipment:

Production of smaller single objects:

- Heated application room with controlled supply/exhaust air
- Cup gun nozzle 1,8 – 2 mm and 1,2 – 1,5 mm
- Heated drying room
- Sanding tools: Eccentric sander, stroke 2,5 mm, with driver pad, adjusted to the abrasive
- Special abrasive
P 600 – 1200 with micro-replicated structure for plane sanding, P2500 – 3000 with micro-replicated structure for polish (wet sanding)
- Polishing tools
Hand-operated polishing machines with electronic speed control from 700 – 2000 cycles per minute, with buffing disk (Molton, lambskin, felt), foam disk, soft polishing cloth

Production of larger objects and major units:

- Heated, preferably dust-free application room with controlled supply/exhaust air
- 2-C-spraying installation
- Heated drying room
- **Sanding tools:**
Long-belt sanding machine/ surface sanding automat
- **Special abrasive**
P 600 – 800 for plane sanding
P2500 for polishing (wet sanding)
- **Polishing tools**
Long-belt sanding machine with low speed and felt- or Molton belt or polishing installation; hand-operated polishing machines with electronic speed control from 700 – 2000 cycles per minute, with buffing disk (Molton, lambskin, felt), foam disk, soft polishing cloth

Recommended sanding-, polishing and care products:

Special abrasives for plane sanding and polishing:

We recommend the use of stearate-coated abrasives with half-open spread, for grain size above P800 with closed spread. All other features like kind of the grit, base and bonding must be co-ordinated with the particular requirements and tools.

Polish and care products

The polishes mainly differ in their grain size and depend on the particular polishing method and the lacquer system.

Our field workers will advise you regarding the choice of the abrasives and polishes.

Care products:

- Hesse Furniture Polish ZD 520
 - Proterra Cleaning agent GR 1900
- Before application of the care products, all wax and polishing residues must be removed with Hesse-Wax cleaner UZ 821.

Polishing with hand-operated polishing machine:

Depending on the quality demand pre-polishing should be made with a coarser buffing paste followed by a fine follow-up polishing. The finer the polishing, the less effort is necessary when buffing. Maybe the pre-polishing with a coarser paste can be waived.

Procedure:

- bewet buffing disks with polishing paste and brush the paste on the buffing areas
- subsequently polish smooth and soft with low pressure, operating speed max. 1200 min⁻¹, in order to avoid buffing through and overheating!
- repeat this operational step with the finest polishing material, until the surface shows the desired shine
- final polish with soft microfiber cloths plus polish or Hesse-Furniture-polish ZD 520

Cleaning and maintenance

High-gloss surfaces need special care. When cleaning and maintaining, the special scratch sensibility of lacquered high-gloss surfaces must be considered. Don't use dry, hard cloths and abrasive cleaners. We recommend moist, soft cloths – even better are moist, fine microfiber cloths.

For cleaning and maintenance at one go, we recommend a diluted solution with Proterra cleaning agent GR 1900, mixture 50 ml in 5 l water. The care product contains anionic surfactants as well as natural Carnuba wax, which protects the lacquered surfaces against traces of use with every cleaning process and preserves the beauty of your surfaces.

Also regular care with Hesse Furniture-polish ZD 520 serves the preservation of the shine.

Most important for high-gloss coatings is ... to choose the right carrier and the best suitable base coat for the scheduled purpose. ... to calculate enough time. High-gloss surfaces cannot be manufactured »in passing«!

Do you want to know more?

Then sign up for our regularly occurring workshops "Highgloss coatings/Buffering/Polishing".

Info on: www.hesse-lignal.de



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