



Product description

Duritan® 3K High-Solid Hochglanzklarlack DT-HG is a revolutionary product with ultra-fast curing properties, extremely high solid body content and extreme brilliance on all types of wood. This product was especially developed for the use on surfaces primed with Duritan® 3K High-Solid Füllgrund DT-F as an extremely hard, hard-wearing, polishable final varnish. Already after a short curing time, the Duritan® system provides excellent chemical and mechanical resistance properties. All Duritan® products are clearly under VOC limit values required by law, i.e., they are ideally prepared for the future.

Range of application

Duritan® 3K High-Solid Hochglanzklarlack DT-HG is suitable for quick, closed-pore coating of wood for all interior objects of higher value, which have been primed with Duritan® 3K High-Solid Füllgrund DT-F. The product with highest brilliance and lucency was especially developed for high-quality interior construction for high-gloss wood coatings.

Surfaces

All common wood and wood materials, which have been primed with Duritan® 3K High-Solid Füllgrund DT-F. **Classic Zweihorn® paint compositions with Wigranit® Isolierfüller WIG-IF and Wigranit® Novacolor WNC/colour can also be used as substrate. Please see 'Special notes'.**

Preparation

Sand with 240-grit paper and carefully dust the surfaces coated with Duritan® 3K High-Solid Füllgrund DT-F. **Surfaces pretreated with Wigranit® Novacolor WNC/colour can be finally coated and cured with Duritan® 3K High-Solid Hochglanzklarlack DT-HG.**

Gloss levels	
Product number	DT-HG
Gloss level	high-gloss
Measuring value acc. to DIN 67530 at 60°	approx. 98

Hardening and activation	
Hardener	Duritan® Härter DH1
Activator	Duritan® Aktivator DA2
Mixing ratio (lacquer/hardener/activator) by weight:	100 : 100 : 2
by volume	100 : 100 : 2.5
Pot life	6-8 h at 20 °C, 65 % relative humidity of air in light-protected container

Thinner

Not required.
- Zweihorn® Universalreiniger UR for cleaning

Application

Shake or stir well before use.

Duritan® 3K High-Solid Hochglanzklarlack DT-HG is mixed in the specified mixing ratio (see 'Hardening and activation'). The activator and the activated varnish mixtures are light-sensitive since chemical curing is started by sunlight. For that reason, the product must be protected against direct solar radiation, in order to ensure the maximum pot life. It is advantageous to prepare the mixture in optically opaque containers. Before the spraying devices are filled they should be carefully rinsed with Universalreiniger UR and all filters should be cleaned thoroughly. **Caution! If other thinners and residues of conventional varnish come into contact with Duritan®, undesired reactions could be aroused, which cause immediate hardening of the varnish within a few seconds.** In the case of spraying devices with material hose we recommend using Duritan® in a separate device. Duritan® 3K High-Solid Hochglanzklarlack DT-HG is ready for use. Duritan® 3K High-Solid Hochglanzklarlack DT-HG is applied with a spray gun. After application and prior to the exposure to light, the coat should rest for 10 minutes. This rest period must be observed since residual solvent and air bubbles trapped during coating must evaporate. Evaporation should take place at normal ambient temperature of 15 to 25 °C. During evaporation the surface must be protected against direct solar radiation, so that premature curing of the varnish coat is avoided. Then the exposure of the varnish coat must be carried out by means of the Duritan® exposure systems recommended by Zweihorn®. With the large-scale exposure system the duration of exposure is approx. 10 minutes with a distance of 1.50 metres to the source of light. Larger distances and shadow regions will extend the duration of exposure. For the exposure of hardly accessible areas we recommend using the Duritan® UV hand radiator. With this, the duration of exposure is a few seconds and the duration of curing is also approx. 10 minutes. The operation with the Duritan® hand radiator is similar to the actual varnishing procedure. After exposure the coat should rest for 10 minutes again. Then the varnished objects can be packed. Polishing can be made after one hour; however, we recommend overnight rest time (of approx. 14 hours). For the polishing sequence with Zweihorn® Spezial Hochglanz-Schleifpaste HSP and Hochglanz-Polierpaste HPP please see the separate Technical Data Sheet for that product (also see: Five steps to the perfect high-gloss surface with DT-HG).

Application methods	
	Spraying
	High/Low pressure
Spray pressure (bar)	2.5-3.0
Nozzle size (mm)	1.0-1.3
Thinner added (%)	–
Processing viscosity DIN 4 mm (sec.)	approx. 22
Coverage per application (g/m ²)	80-120
Yield (m ² /l)	7-10

Production times	
Evapor. time after varnishing	min. 10 minutes
Exposure time with surface radiator at a distance of 1.50 metres max.	min. 10 minutes
Rest time before further processing (stacking, loading)	min. 10 minutes
Polishable	min. 1 hour, recommended: overnight

The times indicated are minimum times and are applied under optimum working conditions if the parameters stated in this Technical data Sheet are met and if the exposure systems prescribed by Zweihorn® are used. The times can generally be extended, if required. Prior to exposure of the coated objects please take care that no air is entrapped anymore in the varnish film. Before the exposure, the varnish film must look crystal-clear. Longer exposure will not damage the varnish film. For further information about best exposure see the separate Duritan® exposure manual.

Aftertreatment

After intermediate sanding (240-grit paper) and careful dusting, another coat with the same material can be applied. We recommend polishing after a rest period of one night up to three days max.

Product data	
Batch size Duritan® Hochglanzlack DT-HG	5 l
Batch size Duritan® Härter DH1	5 l
Batch size Duritan® Aktivator DA2	125 ml
Viscosity of the ready mixture at delivery DIN-4 mm	approx. 22 sec.
Shelf life in unopened original batches	2 years

VOC directive

EC limit value for this product (cat. All/j):
550 g/l (2007) / 500 g/l (2010).
This product contains max. 240 g/l VOC.

For further information see the label and the Safety Data Sheet according to 91/155/EWG, which you can find on our website www.zweihorn.com or which you can request from us.

Special notes

- ▶ The activator and the activated varnish mixture are light-sensitive. For that reason, the activator must be stored in the closed original bottle. Protect the varnish mixture against sunlight and against the Duritan® exposure system. Use optically opaque containers to prepare the mixture. During processing, open containers should be closed with a lid. Only use optically opaque reservoirs with spraying devices. In case of longer pauses cover the nozzle or the air cap.
- ▶ Never mix products of the Duritan® system with other products not mentioned in this data sheet.
- ▶ Carefully rinse spraying devices with Zweihorn® Universalreiniger UR before Duritan® is used. Never use other thinners than indicated. Be careful with universal or washing thinners made by other manufacturers. Smallest amounts or residues in the material hoses of spraying devices may cause undesired reactions (curing) of Duritan® and may irreparably damage the spraying device.
- ▶ Spraying devices and implements must also be protected against light and, at the end of the working day, must be carefully cleaned with Zweihorn® Universalreiniger UR.
- ▶ Residues of Duritan® on fingers or cleaning tissues may cause surface failures when coming into contact with objects to be varnished.
- ▶ Observe the recommended waiting period before Duritan® is exposed to light. Prior to exposure, the surface must have an even deep matt appearance. During the evaporation period the varnished objects must be protected against sunlight and the Duritan® exposure system. Premature exposure to light leads to milky, hazy results and different degrees of gloss.
- ▶ Surfaces coated with Wigranit® Novacolor WNC/colour can be overpainted in accordance with the Technical Data Sheet, but only within 2 to 6 hours after the paint has been applied. If the paint coat should be older, e.g. after overnight drying, the coat must be thoroughly sanded, coated again with Wigranit® Novacolor WNC/colour and, again within 2 to 6 hours, finally coated with Duritan® 3K High-Solid Hochglanzklarlack DT-HG. Failure to comply with this procedure may result in adherence problems between the paint layers.

- ▶ Always sand and dust coatings with polyurethane (PUR) materials shortly before further treatment in order to ensure perfect bonding.
- ▶ Do not process and dry PUR varnishes under 15°C.
- ▶ PUR hardeners are sensitive to moisture. Always store in tightly sealed containers.
- ▶ Pay attention to the Safety Instruction appearing on the label whenever you handle PUR hardeners.
- ▶ PUR hardeners should be stored under cool and dry conditions for not longer than approx. one year in the closed original batch.

Meets the following test standards:



Chemical exposure of furniture surfaces according to DIN 68861/1B



Abrasion resistance according to DIN 68861/2



EN 71-3 Free from soluble heavy metals (CE approval)



DIN 53160 Part 1 and Part 2 Saliva and sweat proof (CE approval)



Flame resistant according to DIN 4102/B1 on B1-tested particle board, also veneered



DIN 5510 Part 2 - Fire prevention in railway applications*



Flame resistant according to IMO-Resolution A 653, USCG approval



Requirements to the surfaces of kitchen furniture according to DIN 68930 regarding the resistance under changing climatic conditions



TÜV-Toxproof – The label for low-emission paints

* applied for

Please follow the relevant test certificates for our products, which can be downloaded from our website "www.zweihorn.com" or requested from us.

1. Priming with Duritan® 2K-Porenspachtel and/or 3K-High-Solid Füllgrund DT-F

In case of coarse-pore or strongly absorbing wood, we recommend using Duritan® Porenspachtel. This transparent surfacer is solvent-free and fills the pores in one to two operations (see Technical Data Sheet). Thus you can save many operations, i.e. you save time and money. Duritan® Füllgrund DT-F is extremely high-build, extremely transparent and is applied after the pores have been filled by means of the Duritan® Porenspachtel or directly onto the raw wood (see Technical Data Sheet). According to the requirements and depending on the surface, DT-F is applied several times. Between the individual coating procedures we recommend drying overnight, because this will clearly improve the stability. MDF for moisture-proof applications does not need any special preparation. If the surface shall be painted with Wigranit® Novacolor WNC/colour prior to the high-gloss varnishing Wigranit® 2K-MDF Isolierfüller IF or 2K-PUR Füller WIG/FILL must be applied as primer.

2. Varnishing with Duritan® 3K-High-Solid Hochglanzklarlack DT-HG

After drying overnight, apply Duritan® Hochglanzlack in accordance with the Technical Data Sheet onto the well-prepared surface. Due to the fact that Duritan® Hochglanzlack has a solid content of approx. 80%, one single application prior to polishing is sufficient. Triple application as with conventional high-gloss varnishes is not required since there is a sufficient dry film layer for sanding and polishing.

3. Polishing preparations

After a curing time of one to three days, dry and wet sanding is possible. Important with dry sanding is a very good eccentric grinding machine with excellent dust vacuuming abilities and the generous use of fresh sanding paper (1500 - 2000 grit). However, with Duritan®, wet sanding is much quicker to obtain the final result. By using 800-grit wet sanding paper for the first planing procedure with the extremely hard Duritan® Hochglanzlack, sanding times as with conventional high-gloss varnishes can be obtained. The next sanding cycles should be made with 1000 and 3000 grit wet sanding paper. In order to check the sanding result during wet sanding, we recommend using a window squeegee to wipe the surface. Polishing can be started when the surface is completely matt. Never sand by hand when the product is applied on the entire surface.

4. Polishing with Hochglanz Schleifpaste HSP

Apply the Hochglanz-Schleifpaste HSP at any point onto the varnished surface. Consumption depends on the surface properties and the machine used. By spraying some tap water onto the surface during polishing, the surface can be cooled down and the Hochglanz Schleifpaste can be diluted. We differentiate between two application techniques:

► Polishing by hand with angular polishing machines:

When using lambskin pads, the distribution of Hochglanz Schleifpaste HSP with the necessary pressure and steady back and forth movements results in the first gloss. If the surface becomes too dry, new paste must be applied in order to avoid that the surface becomes too hot.

► Polishing on belt machines or buffing machines:

Apply Hochglanz Schleifpaste HSP onto the surface to be treated or put it in front of the buffing rollers of a buffing machine. Distribution and polishing are automatic via felt/pile belts or buffing rollers.

Up to 96 % of the obtainable gloss can be obtained with Hochglanz-Schleifpaste HSP. For many customer requirements this is already sufficient. For high-quality highly polished surfaces, however, we recommend carrying out step 5. This step results in the ultimate gloss, so that the naked eye cannot recognize the difference between this and an unpolished surface. Please note, that most of the polishing time is used for Hochglanz-Schleifpaste HSP, because it is more abrasive and smallest scratches can be removed by polishing. Please see the separate Technical Data Sheet for Spezial Hochglanz-Schleifpaste HSP!

5. Polishing with Hochglanz-Polierpaste HPP

Apply the Hochglanz-Polierpaste HPP at any point onto the varnished surface. Consumption depends on the surface properties and the machine used. By spraying some tap water onto the surface during polishing, the surface can be cooled down and the Hochglanz Polierpaste can be diluted. We differentiate between two application techniques:

► Polishing by hand with angular polishing machines:

Hochglanz-Polierpaste HPP is distributed with a foam waffle pad (orange) on the surface to be polished with the necessary pressure and steady back and forth movements. If the surface becomes too dry, new paste must be applied in order to avoid that the surface becomes too hot. With Hochglanz-Polierpaste you can obtain roughly the gloss of an unpolished high-gloss surface. But only if careful sanding was made and when HSP was used for first polishing.

► Polishing on belt machines or buffing machines:

Apply Hochglanz-Polierpaste HPP onto the surface to be treated or put it in front of the buffing roller of a buffing machine. Distribution and polishing are automatic via felt/pile belts or buffing rollers.

Please see the separate Technical Data Sheet for Hochglanz- Polierpaste HPP! In order to clean the surface from remaining polish particles, just wipe it with a microfiber cloth or apply small amounts of Hochglanzpolitur 10099 onto the surface. It removes not only the existing residues of Hochglanz-Polierpaste HPP, but it also results in a more brilliant surface. After drying, treat the surface with a polishing sponge until it looks crystal clear. Repolishing with Spezial Abpolierwasser S 68 is possible (Caution: contains silicone!). By doing so, the surface becomes more scratch resistant.

Zweihorn® products are produced for the professional user, who has a basic knowledge of the use and the application of stains, varnishes, glazes and glues. The user information for our qualities given in the leaflets should be regarded as non-binding recommendations. They are based on our test series and experiences and should facilitate and promote the work of our clients. Any adjustment to the individual working conditions, which might be possible, lies within your responsibility. If in any doubt, our material experts as well as our application and laboratory technicians will try to help you as best as they can. We guarantee of course the impeccable quality of our products based on our General Sales and Delivery Conditions. The use of the final product lies entirely within the responsibility of the buyer. As long as we have not guaranteed in writing specific characteristics and suitability of the products for a contractually agreed purpose, any advice or information given regarding the application, even if the advice or information is given to the best of our knowledge, will be non-binding. Nor does it relieve the buyer, either from his own inspection, and if need be through a trial processing. Furthermore, we are only liable according to Chapter 1 of our General Conditions for advice either given or rejected, which does not refer to the characteristics and use of the delivered product.

Applicable is the current Technical Data Sheet, which can be downloaded under www.zweihorn.com. Previous technical data sheets are voided with the issue of a new version.

Date of issue: April 30, 2009