



Product description

Duritan® 3K High-Solid Füllgrund DT-F is a revolutionary product with ultra-fast hardening properties, extremely high solid body content and extreme brilliance on all types of wood. In this system, caving of the varnish in the wood pore is reduced to a minimum. Duritan® 3K High-Solid Füllgrund DT-F is the basis for closed-pore constructions, which can be finally overpainted with Duritan® 3K High-Solid Hochglanzlack or Tiefmattklarlack. 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 Füllgrund DT-F is suitable for quick, closed-pore coating of wood for all interior objects of higher value. The product with highest brilliance and transparency was especially developed for high-quality interior construction with noble wood coatings.

Surfaces

All common wood and wood materials, even if treated with Zweihorn® stains except wax stains. Please see the 'Special notes'.

Preparation

For raw wood surfaces a graduated sanding must be carried out (120/150/ possibly 180 grit paper). Dust well. Do not sand stained surfaces.

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.

- PUR-Verdünner S 9004, if required.
- Zweihorn® Universalreiniger UR for cleaning.

Application

Shake or stir well before use.

Duritan® 3K High-Solid Füllgrund DT-F 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 Füllgrund DT-F is ready for use. In the case of wood with fine pores, the mixture is applied twice, in the case of wood with coarse pores, the mixture is applied three to four times, each time after corresponding evaporation, exposure and rest periods as well as after intermediate sanding with 240-grit paper. Duritan® 3K High-Solid Füllgrund DT-F 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 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 directly sanded and coated with Duritan® 3K High-Solid

Füllgrund DT-F or with the varnishes mentioned under 'Aftertreatment' again. In case of strongly absorbing surfaces such as MDF, beech, maple, etc., we recommend applying the first layer very thin, because the varnish would unevenly be absorbed during drying if the layer is too thick, and the sanding effort would be too great.

Application methods	
	Spraying
	High/Low pressure
Spray pressure (bar)	2.5-3.0
Nozzle size (mm)	1.0-1.3
Thinner added if required max.(%)	5
Processing viscosity DIN 4 mm (sec.)	approx. 30
Coverage per application (g/m²)	80-120
Yield (m²/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 (sanding, stacking, loading)	min. 10 minutes

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. If thinner has been added, the evaporation time required is longer. 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, the final coat can be applied with the same material or with Duritan® 3K High-Solid Hochglanzlack DT-HG or Duritan® 3K High-Solid Tiefmattklarlack DT-TM. **It is also possible to apply a varnish of the Crystallit®, Diadur®, Duocryl Top- or Variocryl® series.**

Product data	
Batch size Duritan® Füllgrund DT-F	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. 30 sec.
Shelf life in unopened original batches	2 years

VOC directive

EC limit value for this product (cat. A/j):
550 g/l (2007) / 500 g/l (2010).
This product contains max. 250 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 use products of the Duritan® system together 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 (fingerprints) when coming into contact with objects to be varnished.
- ▶ Observe the recommended waiting period before Duritan® is exposed to light. Prior to the exposure to light, the surface must look crystal-clear. 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.

- ▶ Due to the absorption of light, dark wood and stained wood may require longer exposure and curing times. Always make a test with this kind of surfaces.
- ▶ 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:



EN 71-3 Free from soluble heavy metals (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



TÜV-Toxproof – The label for low-emission paints

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

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