Technical information

Hesse HYDRO PU PRIMO HDE 5400x(gloss level)

Mixing ratio (by volume): 10 : 1 HYDRO Hardener HDR 5091

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>Product description

Two-component HYDRO-PU Acrylate multicoat lacquer system with outstanding mechanical and chemical resistance. Excellent accentuation and brilliance, combined with good cream and hand perspiration resistance, establish this system as a top quality surface protection for all interior fittings. The special formulation of this lacquer also makes it suitable for coating wooden staircases to be creak-free. This lacquer is certified to IMO (flame retardant coating for seagoing vessels) and is therefore suitable for the interior fittings on ships. It is free from methylpyrrolidone and phthalate plasticizers and thus also suitable for coating children's toys. Also certified for flame retardancy under DIN EN 13501-1 and DIN 4102 B1.

>Areas of application

In the entire interior, including kitchen and bathroom, as well as for painting the interior of ships. Also suitable for coating content-rich woods (e.g. ash, oak, pine, etc.), as well as stairs and handrails. Can also be used on bleached surfaces (that are adequately dry).

>Surface Preparation

Surface preparation	Clean, dry wood, free of oil, grease, wax and silicones. Sanded as prescribed and free from sanding dust.
Substrate sanding grits from-to	120 - 220
Lacquer sanding (grit) from - to	280 - 320
Comments on sanding	The quality and uniformity of the wood / substrate and of the lacquer sanding are crucial to the final surface finish. After sanding, remove dust as prescribed.

>Finishing

>Times

Usage time	2 h / 20 °C
Working Temperature Range	18 - 22 °C
conditions of transport	10 - 30 °C
Drying	4 h / 20 °C
Stackable after	> 16 h / 20 °C
Complete drying	24 h / 20 °C

>Application

Application	Nozzle size in mm	Spray pressure in bar	Atomising pressure in bar
Spraying			
Airless	0,23 - 0,38	100 - 120	
Air mix	0,23 - 0,38	60 - 100	1,5 - 2,5
Compressed air spraying	1,5 - 2,0	2,5 - 4	
2C line			
Airless low pressure			
other treatment			
other treatment			

>Processing instructions

Once the hardener is well worked in, adjust the spray viscosity with up to 5 % water. The hardener must always be added before thinning with water! Never store product mixed with hardening agent in closed containers. Re-coatability: with itself following proper sanding. Clean tools with water. For removal of dried lacquer residues use Hesse HYDRO Cleaning agent HV 6917. In case of combined coatings (HYDRO- and solvent based lacquers) rinse application tools with Hesse HYDRO Reversing agent HV 6904.

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>Technical data

Flow time (+/- 15 %)	40 s / DIN 53211 - 4 mm
Appearance	colourless
Decopaint basis	WB
Decopaint category	J
Density series kg/l	1.02 - 1.041
Yield per coat	8 - 13 m²/l The spreading rate is heavily dependent on the type of application. The specifications relate to a liter of ready-for-use product, if necessary including hardener and thinner.
Form of delivery	fluid
Non-volatile content series %	32 - 37
VOC EU %	6 %
VOC FR	C
Working Temperature Range	18 - 22 °C
Storage temperature	16 - 30 °C
Shelf life in weeks	26
conditions of transport	10 - 30 °C
Working temperature	20 °C
Number of coats (max)	2
Amount per layer (minimum)	80 g/m²
Amount per layer (max)	130 g/m²
Total application volume	260 g/m²
Mixing ratio (by volume)	10 : 1 HYDRO Hardener HDR 5091
Mixing ratio (gravimetric)	100 : 10 HYDRO Hardener HDR 5091

>Ordering information

Order number	Gloss level 60° (Gloss)	Gloss level	Container Size
HDE 54000	0 - 3	dull matt	5 l, 25 l
HDE 54002	8 - 12	matt	5 l, 15 l, 25 l
HDE 54004	18 - 23	silk matt	5 l, 25 l
HDE 54007	40 - 59	satin gloss	5 l, 25 l

>Hardeners

Order number	Product description	Container Size
HDR 5091	HYDRO Hardener	0.5 l, 1 l, 1.5 kg, 2.5 l, 5 l, 25 l

>Equipment cleaner

Order number	Product description	Container Size
HV 6904	HYDRO Reversing agent	0.25 l, 1 l, 5 l, 25 l
HV 6917	HYDRO Cleaning agent	1 l, 5 l, 25 l

>Cleaning agent and care product

Order number	Product description	Container Size
GR 1900	Cleaning agent	1 l, 2.5 l, 3 l, 25 l
PR 90	PROTECT-CLEANER	1 l, 3 l, 15 l, 25 l

>Supplementary products

Order number	Product description	Container Size
HZ 75	HYDRO Zusatz rutschhemmend	1 l, 25 kg

>Particular instructions

This product must only be combined with other approved and technically suitable products when used as a flame retardant coating material for seagoing vessels according to the latest version of SOLAS 74/88 Reg. II-2/3, II-2/5 and II-2/6, IMO Resolution MSC.36(63)-(1994 HSC-Code) 7 and IMO Resolution MSC.97(73)-(2000 HSC-Code) 7. The maximum application amount in wet film when using this product as a flame retardant coating material for seagoing vessels is 240 g/m².]
"A risk assessment was undertaken according to Directive 2014/90/EU, Annex II, Section 3. This coating does not pose a physical risk to health nor a risk to the environment when cured and dried."
Non-slip factor R10 as per DIN 51130 is achieved by adding 10 % Hesse Additive HZ 75 to the final coat of lacquer.

>Sample process

Wood sanding: graduating from 120 - 180 grit with subsequent dust removal. Coating: 2 x 100 - 120 g/m² Hesse HYDRO-PU PRIMO HDE 54004, mixing ratio (by volume) 10 : 1 with Hesse 2C HYDRO Hardener HDR 5091. Intermediate drying: at least 4 h / 20° C room-temperature with adequate air circulation. Lacquer sanding: smoothed using 320 grit with subsequent dust removal. Packable: after drying for at least 16 h / 20 °C room-temperature with adequate air circulation.

>General information

When working with HYDRO materials, parts that come into contact with the material must be made from stainless steel. The moisture content should be between 8 - 12 %. Do not apply or dry HYDRO lacquers at material or room temperatures below 18 °C. The ideal humidity for application lies between 55 and 65 %. During the lacquering process, a humidity level that is too low leads to surface defects (such as shrink cracks, etc.). Excessive humidity during the drying phase may drastically lengthen the drying time! In order to avoid adhesion problems, please sand the lacquered surfaces freshly before coating and apply lacquer to the sanded surfaces as soon as possible. When applied to foils, etc., please use a sample coating on the respective substrate to check the adhesion! The ideal complete hardening of lacquered surfaces that have been flashed off is reached at temperatures over 20 °C up to no more than 40 °C. Adequate, draft-free air exchange must be assured. The complete hardening of the lacquer will be reached after one week of proper storage (at least 20 °C room temperature). Woods containing large amounts of natural oils, such as teak, can negatively influence adhesion under certain circumstances. Water-soluble wood ingredients such those in ash and tannins in woods such as oak may cause colour changes and discolourations in the coating. We recommend that you always conduct a sample lacquering to evaluate the colour effect, adhesion and drying process under real conditions!

>Particular properties and/or testing standards

Test standard / basis	Testing laboratory	Mark	Report	No.
EC type examination certificate (module B); coating agent for seagoing vessels according to IMO Resolution MSC.307(88)-(FTP-Code 2010).	Trade association transport and traffic; Ship Safety Division, Hamburg		Approval No. U.S. Coast Guard Approval No.	116.388 164.112/ EC0736/116.388
Product meets the requirements of solvent based paints and coatings regulation - ChemVOCFarbV (German ordinance on solvent-based paints and varnishes) - according to the national implementation of 2004/42/ EG ("Decopaint Directive ").	HESSE	ChemVoC FarbV Decopaint fähig		
DIN 68861-Part 1B (Furniture surfaces; Behaviour under chemical demands)	EPH-Dresden	ihd INSTITUT FÜR HOLZTECHNOLOGIE DRESDEN gGMBH	Test report	No. 2715617 (except **HDE 54000** due to its special matt surface)

>Particular properties and/or testing standards

Test standard / basis	Testing laboratory	Mark	Report	No.
PVC-resistant	HESSE			
Saliva and sweat resistance according to DIN 53160 Parts 1 and 2: no discolouration (Level 5)	HESSE			
Toy safety DIN EN 71-3 (2014-12)	OST-THÜRINGESCHE MATERIALPRÜ-FUNGSGESEL-LSCHAFT		Test report	2.5/031/2016 (HDE 54000)
Classification of fire behaviour under DIN EN 13501-1 on validated substrate materials	MPA-Stuttgart		Classifica-tion:	B-s1, d0
Non-slip class R10 per DIN 51130	SFV		Test certifi-cate number	82611801.001 (HDE 54004 - After adding 10 % Hesse Additive HZ 75 to the fi-nal coat of lacquer.)
Green Building - Applicable Standard Speci-fication: 2010 Dubai Green Building Regula-tions and Specifications (GBRS) Applicable Specific Rules: RD-DP21-2180-(IC) Specific Rules for Certification of Paints and Coating through Factory Assessment as per the 2010 Dubai Green Building Regulations and Speci-fications.	Dubai Central Laboratory		Certificate No:	CL15020251 (HDE 5400x(gloss level))