

Tips for professionals: spray application

These tips and recommendations are based on years of practice and cooperation with spray equipment manufacturers.

Preparation

Mineral surfaces should be dry, stable, absorbent, neutral, clean and free of separating agents, cracks, efflorescence and fungus.

For wood and a smooth and durable surface, fine pre-sanding is necessary with at least 180 grain for chestnut, oak, ash, robinia and at least 240 grain for all other types of wood. The sanding dust has to be removed carefully out of the pores by brushing with a fiber brush or blowing, even after immediate sanding; otherwise grey pore fillings may occur, which result mostly from non-wetted dust-inclusions. The moisture content of the wood should be at least 12 %. A wood temperature of at least 15°C (59°F) is beneficial.

Spray viscosity

should only be set with the recommended thinner according to the product. For shorter ventilation times choose SVALOS Spray Thinner No. 293. This is also suitable for cleaning the equipment. Note generally: always dilute only partial quantities, sufficient for the daily need and stir shortly before spraying. To prevent clogging of the filter by using older and previously opened containers use sieve gauze.

Spray technology

The distance to the object should be at least 30 cm, the spray pressure 3 bar. Large areas can be coated evenly crosswise. Always hold the spray gun parallel to the object. Align the spray jet as vertical as possible to the object surface. At first start to spray across the grain. The gun is always rotated or turned outside the object so that no uneven coating thickness can occur on the surface. NC lacquers and LIVOS oils must not be processed alternately on the same spray station. Clean spray station thoroughly before a change, remove spray dust residues (NC lacquers). Change filter gauze.

The spraying method with low-pressure is also known as HVLP technique (High Volume Low Pressure). It is a compressed air atomization, in which, in contrast to the high-pressure spraying, the coating material is applied more concentrated to the work piece. It creates less "overspray". The HVLP technique is particular suitable for spraying fluid materials with low viscosity.

The airless spraying process with air is denoted according to the device manufacturers as Airmix (SATA) or Aircoat (Wagner), since the spray jet is as it were wrapped with air.

To avoid surface defects

Always work with thin layers, otherwise it can result in an orange peel skin or by the application of hardwood air bubbles can rise out of the pores that remain trapped in the wet film. From thin-layer wet films these gas bubbles can escape.

To avoid the formation of bubbles in the wet film, crater formation (burst blisters) please note:

1. Check the moisture content of the wood
2. Spray thin layers
3. Reduce spray pressure
4. Spray with a greater distance

An adapted spray process can improve the adhesion on vertical surfaces in order to avoid the formation of runs or "curtains" with VINDO Natural Gloss Paint No. 629 or CANTO Low Gloss Paint No. 692. At first wet the surface with a thin and misty application and repeat after a few minutes, with a low flow-rate of material. After 5 minutes spray the entire surface. It is to work crosswise for each application.

SVALOS Spray Thinner No. 293 has to be used as thinner.

Oil droplets at pore openings of hardwood can occur after the drying process on the otherwise matte surface when a primer did not dried completely and was sprayed too early or when furniture were stored at a warmer place (additional 5 – 10 °C (41 – 50 °F)) after application.

Wetting difficulties often occur at sites that have been touched by ball of the thumb or fingertips. Skin protection creams can have an oil and water repellent effect, i.e. use gloves to touch untreated wood.

Stain with conspicuous pigment accumulation. Improve pre-sanding up to 240 grain. Apply the wet film very thinly and increase spraying distance.

Occupational Safety and security measures

Because of the spray mist development and solvent concentration, an air suction, EX – protection for spray devices and rooms for solvent containing products with low flash point are needed e.g. for shellac products absolutely required (request safety data sheets, if needed). Keep away from sources of ignition, do not smoke. Ventilate additionally, if necessary.

Cleaning rags, sponges etc., which were wetted with plant oil based products, have to be stored in an airtight metal container or water, as there is danger of spontaneous combustion caused by the plant oil content. Free floor and surrounding area from product dust. Spray station mats should be replaced regularly. For more information please note our technical data sheets available at www.livos.de.

		I. Compressed air atomizer				II. Airless with air	
		High pressure Air pressure in bar	Nozzle in mm	Low pressure Air pressure in bar	Nozzle in mm	Spray-, Air pressure in bar	Nozzle in inch
Oils	e.g. Natural Resin Hardening Oil No. 264 Universal Wood Oil No. 266 Natural Oil Sealer No. 244 Penetrating Fence Stain No. 223 Decking Oil No. 579	3,0-5,0	0,7-1,0	0,7-1,0	1,3-1,5	50-120 2,0-3,0	0,007- 0,011
Stains	e.g. Transparent Wood Stain No. 270 All Weather Stain No. 281 Transparent Furniture Stain No. 297	3,0-5,0	0,7-1,0	0,7-1,0	1,3-1,5	50-120 2,0-3,0	0,007- 0,011
Wax-Oil	e.g. Wax Oil No. 267 Oil Wax No. 375	3,0-5,0	0,7-1,0	0,7-1,0	1,3-1,5	50-120 2,0-3,0	0,007- 0,011
Shellac	e.g. Shellac No. 701 Shellac No. 709	3,0-5,0	0,7-1,0	0,7-1,0	1,3-1,5	50-120 2,0-3,0	0,007- 0,011
Wax Stain	e.g. Hydro Wax Stain No. 340	3,0-5,0	0,7-1,0	0,7-1,0	1,3-1,5	50-120 2,0-3,0	0,007- 0,011
Paint	e.g. Natural Gloss Paint No. 629 Natural Gloss Paint No. 650 Low Gloss Paint No. 692	2,0-6,0	0,9-1,3	0,8-1,2	1,3-1,5	80-130 2,0-3,0	0,009- 0,011
Wall paint and plaster	e.g. Natural Wall & Ceiling Paint No. 417 Natural Dispersion Paint No. 412 Natural Dispersion Paint No. 413	-	-	-	-	ca. 150 2-3	0,009- 0,011

The values given are examples from different test series and are based on the present state of our knowledge. However, they do not release the user from own pre-tests. Depending on the adjusted viscosity, spraying distance and technology (round or flat jet), the spray conditions can vary.

Addresses from device manufacturers:

A. Spray devices (manufactures in alphabetic order)

- Sata GmbH & Co. KG,
Domertalstraße 20, 70806 Kornwestheim
Phone: +49 (0)7154-811-0, info@sata.com

- VISECO Heißwachstechnik GmbH
Flurstr. 11 b, 86551 Aichach,
Phone: +49 (0)8251-827777
Fax +49 (0)8251-827779
info@viseco.de

- Wagner GmbH
Otto-Lilienthalstr. 18, 88677 Markdorf
Phone: +49 (0)7544-505-0
www.wagner-group.com

B. Polishing technology

- August Mink KG, Fabrikation technischer Bürsten,
Autenbachstr. 24 – 36, 73035 Göppingen,
Phone: +49 (0)7161-4031-0,
Fax +49 (0)7161-4031-50,
info@mink-buersten.de,
www.mink-buersten.com

C. Abrasive and polishing equipment

- Eberflex
Eicher Hauptstr. 27, 64319 Pfungstadt-Eich
Phone: 06157-974740,
Fax 06157-974745
info@erberflex.de

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