

DENIM FINISHING

WEKO OFFERS SOLUTIONS ...

weko



FIXATION OF INDIGO AND SULPHUR DYES | RESIN FINISH AND
FLAT FINISH | TINTING AND OVER-DYEING | SOFTNESS, LUSTRE
AND BRILLIANCE | BASE COATING FOR LEATHER AND GLOSSY
FINISHES

DENIM – FINISHING WITH LIQUIDS

THE TASK

STYLISH AND FUNCTIONAL TEXTILE FINISHING

Textiles and nonwovens can be optimally finished through the application of liquid substances: softeners, lubricants, flame retardants, antimicrobial, hydrophilic, hydrophobic and oleophobic finishes, etc. provide the desired properties.

In denim finishing, fixing of indigo and sulphur dyestuffs, resin and flat finish, tinting or over-dyeing belong to the common types of finishing.

Textile finishing is traditionally performed with the padding procedure where the auxiliaries are applied by soaking in a trough followed by squeezing. Known drawbacks include both high residual moisture, which requires drying with much energy, and also quality-compromising changes of liquor concentration when using textile auxiliaries having strong fibre affinity.

THE EXPERTS



Continuous Yarn Dyeing and
DENIM finishing



DR. PETRY
TEXTILE AUXILIARIES

Textile chemistry and textile finishing



WEKO-Fluid-Application-System

DENIM CAN BE FINISHED WITH
A WIDE VARIETY OF EFFECTS
ACCORDING TO CUSTOMER
PREFERENCE.





THE OBJECTIVE: ECONOMIC AND SUSTAINED TEXTILE FINISHING USING THE EXAMPLE OF DENIM.

THREE EXPERTS, ONE IDEA

TEXTILE FINISHING WITH MINIMUM APPLICATION

Lilienweiß Co. enjoys approximately 40 years of experience with refining DENIM and Jeans. The necessary know-how and contacts, domestically and abroad, are the backbone of the company's own production facilities.

Textilchemie Dr. Petry is a medium-sized manufacturer of chemical auxiliaries for the textile industry. The specialists from Petry distinguish themselves through comprehensive knowledge and a wealth of experience in textile finishing. They offer customised and application-specific auxiliaries also for the sophisticated finishing of denim fabric.

The experts from WEKO enjoy many years of experience with the production of non-contact application systems for powder and liquids which have long been used also for textile finishing.

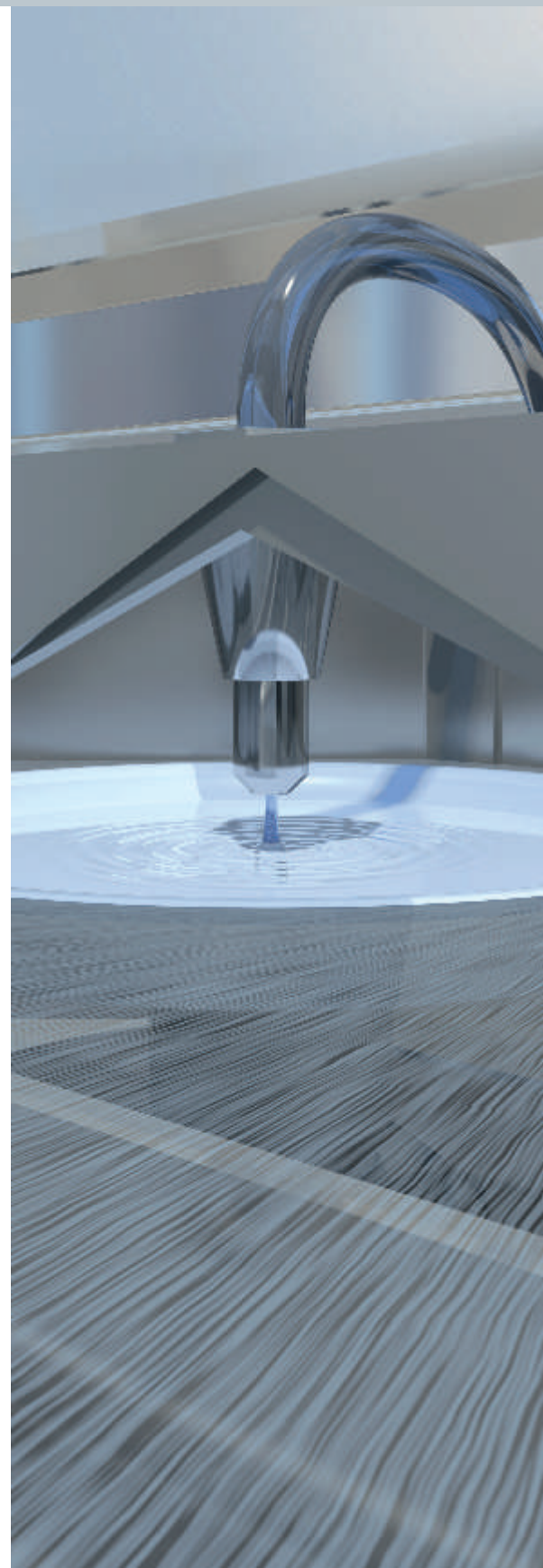
The idea of substituting the traditional padding procedure by the non-contact WEKO-Fluid-Application-Systems (WFA) was jointly developed.

THE BENEFITS

SUSTAINED PRODUCTION PROCESSES

Utilising the non-contact minimum WFA systems results in:

- Process streamlining
- Quality assurance
- Saving chemicals
- Cost reductions





THE BENEFITS OF THE WEKO-FLUID-APPLICATION-SYSTEMS COMPARED TO THE TRADITIONAL PADDING PROCEDURE

SUSTAINED PRODUCTION

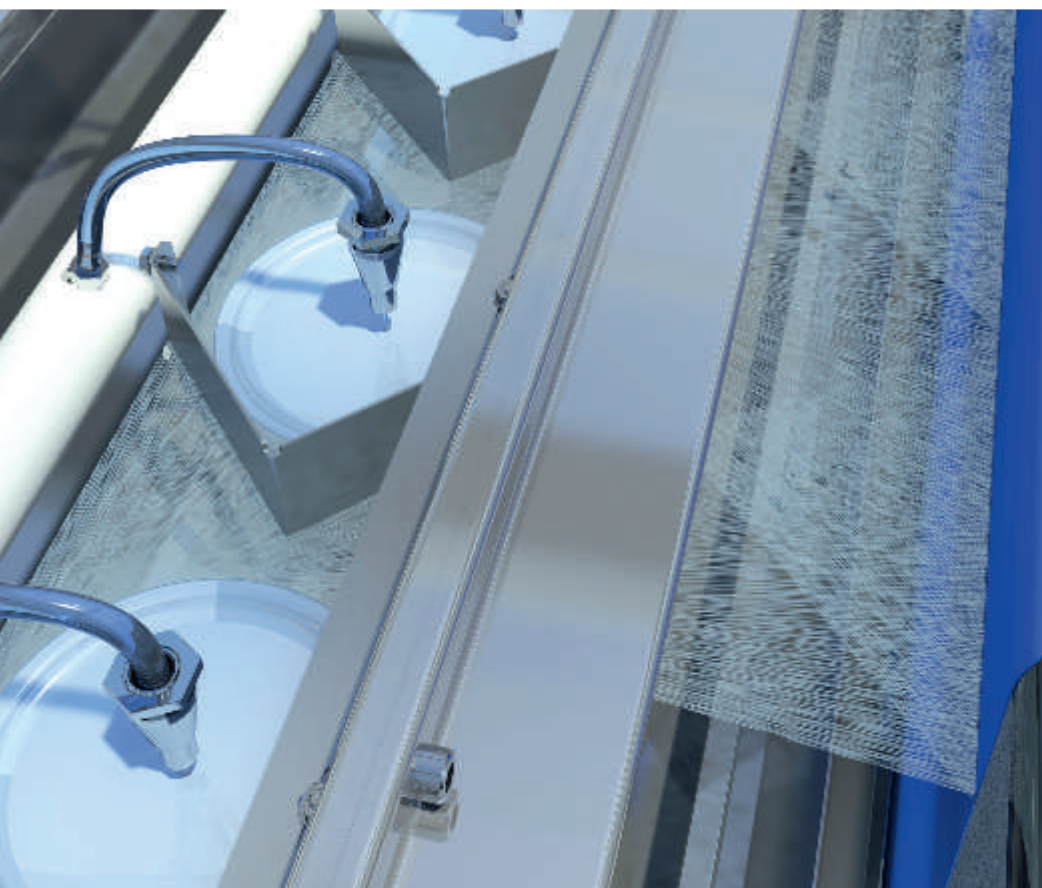
PROCESS STREAMLINING

The flexible and non-contact application systems offer great variation potential of finishing effects. They can be configured on one side or both sides. If the precoat for special effect coating can be made with a WEKO application system, one coating pass can be saved.

The residual liquor is not contaminated thanks to non-contact application, and there is no risk of spotting. The chemicals used can therefore often be reused with non-contact application, and significantly less waste is generated. System-supported flushing programs allow easy cleaning and thus the quick change of liquids.

The non-contact
WEKO-Fluid-Application-System

Regardless whether you want to functionally finish fabrics such as DENIM or nonwovens or achieve special effects: Thanks to the interaction with the know-how of the DENIM professionals from Lilienweiß, the specialists from Textilchemie Dr. Petry and the WEKO-Fluid-Application-Systems we will find the right solution for your requirements as well.



ULTRA-FINE METERING
APPLICATION SYSTEMS
FROM WEKO FOR PRECISE,
REPRODUCIBLE RESULTS WITH
MAXIMUM PRESERVATION
OF YOUR RESOURCES.

ADVANTAGE OF THE NON-CONTACT WFA SYSTEMS

QUALITY ASSURANCE

Because of the non-contact mode the finishing liquor is not changed as a result of substances being released from the moist fabric (such as dyes, auxiliaries, water, etc.) with wet-in-wet application. Especially with DENIM fabric, the light back side of the DENIM fabric can be easily soiled (back-staining) from the carry-over of dyes with the padding procedure. This is avoided when using WFA systems.

The non-contact process always provides constant concentration of the chemicals applied and even with textile auxiliaries with affinity to fibres the reproducible and consistent product quality without tailing is ensured.

COST REDUCTION

CHEMICALS, AUXILIARIES AND ENERGY SAVINGS

WEKO-Fluid-Application-Systems only apply the amount of textile auxiliaries that is actually needed. The desired finishing properties are normally achieved with a pick-up of only 15–25 %. With the padding procedure, by contrast, roughly 70 % of moisture is retained by the fabric even after squeezing.

When finishing is performed with the WFA system, much less drying energy is required and energy savings of up to 60 % can be achieved. Because of the reduced energy required during drying machine speeds can be significantly higher, even up to 100 %.

When using textile auxiliaries up to 70 % can be saved, also, because single-sided and surface application is possible, if necessary. In short:

WEKO-TRIPLE-C-EFFECT[®]

CONTACT-FREE **CHEMICAL SAVINGS** **COST REDUCTION**

For your success with economic and sustained DENIM application as well as with all other textile and non-woven finishings.



Your benefits at a glance

- Precisely defined application quantity
- Great long-term consistency
- Exact distribution of the liquids
- Reproducible application quantities
- Application of diverse substances
- Economic consumption of application medium easy to operate
- Less drying energy or drying time
- No squeezing

SPECIFIC APPLICATIONS IN DENIM FINISHING

WHICH PURPOSE OF APPLICATION	PROVIDES WHAT BENEFIT
Fixation of indigo and sulphur dyes (Fig. 1)	Improved fastness to washing
	Remarkable darker shade after wash-down
Resin finish and flat finish (Fig. 2)	Adjustable, flat contrasts
	Improvement of dimensional stability without negative impact on elasticity and handle
	Permits more natural and authentic effects at subsequent mechanical refinement
	Improved fastness to rubbing
Tinting and over-dyeing (Fig. 3)	To adapt to the fashion requirements
	Realisation of sophisticated colourations, natural colours and strong contrasts
	Variable over-dyeing, optionally on one or both sides

The benefits of the WEKO-Fluid-Application-System compared to the padding procedure

- Application is possible from one side or both sides, depending on the individual requirements
- Chemical savings up to 70 %
- Less energy required in the dryer
- Higher machine speeds through markedly shorter dryer times
- Less auxiliary and dye use
- Consistent finishing quality through non-contact application
- Less chemicals used preserve tear and tensile strength of the DENIM fabrics



Fig. 1: Fixation of indigo and sulphur dyes



Fig. 2: Resin finish and flat finish



Fig. 3: Tinting and over-dyeing

OTHER APPLICATION OPTIONS

WHICH PURPOSE OF APPLICATION	PROVIDES WHAT BENEFIT
Softness, lustre and brilliance	Many stylish effects customarily achieved by separate coating plants can also be realised with the WFA without requiring another passage through a coating plant. Gloss is always only obtained after final calendaring. However, DENIM finishing with the WFA systems promotes this effect.
Base coating for leather and glossy finishes	Some effects achieved by coating require the so-called precoat and top coat. When precoating with the WFA system, one coating pass can be saved compared to the traditional procedure.

HOW THE WFA SYSTEMS WORK

NON-CONTACT LIQUID APPLICATION WITH FINEST METERING

The original system from WEKO consists of the Liquid Supply Unit and System Controller **WEKO-FLOW** and the Rotor Carrier **WEKO-SIGMA**.

Application takes place via rapidly rotating plates – so-called rotors. They rotate at high speed and are supplied with the necessary liquid quantity by a supply unit. The rotors produce a flow of micro-droplets shaped into individual fans via discharge orifices. The individual fans are seamlessly arranged side by side ensuring uniform application.

The WFA systems are distinguished by the exactly measurable application resulting in significant savings of drying energy and/or higher machine speeds.





INDIVIDUAL SOLUTIONS

VERSATILITY, IDEAS AND VISIONS

Our task is to give your textiles and nonwovens individual and functional properties through liquid application that preserves material and resources. All this with maximum economy and productivity. Just contact us; the three specialists for state of the art and innovative textile finishing will find a solution to almost any challenge.

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