



WEKO

FLUID & POWDER COATING



Weitmann & Konrad GmbH & Co. KG • Friedrich-List-Straße 20–24
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TECHNICAL BULLETIN: SPRAY SOLUTION TEST WEKO FLUID APPLICATION SYSTEM



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WFA WEKO-FLUID-APPLICATIONSYSTEM

WEKO sets global standards with its non-contact **WFA WEKO Fluid Application** system for the paper, textile, wood fibre board, nonwoven, tissue and plastic film industries.

This application system is particularly suitable for the application of low-viscosity, water-based liquids (e.g. water, lotions, plasticizers, antistatic, anti-block, anti-fog, ...) on webs or continuously moving material webs.

We offer a spray solution test for purpose of preliminary clarification to ensure optimal results of the WFA. This standardized test can be used to ascertain to a large extent the suitability of the process liquid with the WFA system.

The WEKO spray solution test is used to determine the basic suitability of a liquid in the WFA system by a short-time test. This test does not release the user from his own tests and assessments.

A legally binding assurance of certain properties or suitability for a specific application or process cannot be derived from this. Further knowledge can be gained from tests in the WEKO Technical Centre which are subject to a charge.

Despite the spray solution test, later incompatibilities of certain components with the liquids can emerge. A claim in any form, such as conversion or warranty claims do not arise from it.



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REQUIREMENTS FOR THE SPRAY SOLUTION TEST

- 3 litres ready-to-use mixture or concentrate for 3 litres liquid (liquor)
- Completed questionnaire with information on concentration/mixing ratio and intended use. Specific information on the preparation of the mixture (e.g. demineralised water, temperature, stirring, ...)
- Safety data sheet with hazard warnings
- Technical bulletin with information on the intended use, via Mail before the liquid is shipped
- Instructions on disposal or return of the test liquid

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REQUIREMENTS FOR WEKO-COMPATIBLE LIQUIDS

- Water-soluble, even after drying redispersible or removable using an alternative non-explosive surfactant.
- Non-explosive (system does not provide explosion protection)
- Preferably $<100 \text{ mPa}\cdot\text{s}$ at $20 \text{ }^\circ\text{C}$. Max. viscosity not clearly determinable.
- Max. temperature $60 \text{ }^\circ\text{C}$
- Electrically conductive (Special solutions are possible on request)
- Shear resisting
- No or low foam formation (suitable defoamer if necessary)
- No flocculation or churning



Bsp. für taugliche
Flüssigkeit nach Test

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PRELIMINARY TESTS

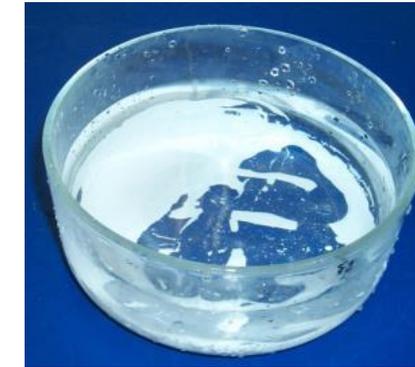
DRYING/FILM FORMATION AND SEGREGATION



Redispersible
liquid > ok



Non-redispersible
liquid > NOK



Non-redispersible
Liquid > NOK

Test liquid is filled in Petri dishes. An assessment is made after 2.5, 4.5 and 12 hours each

2,5 hours. drying/film formation, no segregation → **pre-test failed. End.**

4,5 hours. partly drying/film formation, no segregation → **pre-test passed with restrictions.**
Use in the application system only possible with increased cleaning effort.

Filters, restrictors and other parts may be blocked

12 hours. no drying/film formation, no segregation → **pre-test passed**

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PRELIMINARY TEST

VISCOSITY, CONDUCTIVITY AND PH VALUE



Viscosity (measuring method: Ford Cup 4 mm)

< 100 mPa•s → pre-test passed

> 100 mPa•s → if possible dilute to below mPa•s and continue test

Conductivity (measuring method: conductivity meter)

Conductivity > 50 $\mu\text{mS/cm}$ → pre-test passed

Conductivity < 50 $\mu\text{mS/cm}$ → pre-test passed, but with note: Use a mass flow meter

pH-value (measuring method: indicator paper)

If highly alkaline or acidic additional material resistance test → pre-test passed

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MAIN TEST IN THE LIQUID TESTER

FOAMING, SHEAR STABILITY, NO FLOCCULATING OR THICKENING

Foaming

Foam formation can have a disturbing effect on the application system. Tank and/or troughs can overflow. The pump may deliver foam instead of application liquid.

This spray solution test can only reflect the situation in an application system to a limited extent, but it can certainly provide clues. The application engineer will make a recommendation on how to proceed further, e.g. repeat test with suitable defoaming agent, test with larger test quantity in the original application system or ... → the liquid is not sprayable



Shear stability, no flocculating or thickening

The liquid is subjected to mechanical stress both in the pump and by the rotors. This may damage the liquid, resulting in flocculation, churning or thickening of the liquid. → not sprayable

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