

Electro Wet Cleaning

The safe way to clean
electrical installations



Information on the procedure of the **electro wet cleaning**

Leading quality:

Rivolta 

 **bremer & leguil**



What does electro wet cleaning mean?

The wet cleaning of electrical installations is based on a cleaning process with hydrocarbon based cleaning agents. The cleaning can be carried out at installations disconnected from voltage as well as at electrically live installations.

By the use of liquid cleaning agents materials and components are cleaned in a surface-protecting way. With this special cleaning procedure two essential requirements are fulfilled at once:

1. Functionality of the installation by maintenance

It takes care of an orderly availability of the electrical installation, of the operating reliability and industrial work safety.

2. Ordinance on Industrial Safety and Health and BGV A3 (German regulations)

It fulfils the legal requirements for e.g. fixed installations. Quote BGV A3 §5: "The operator has to ensure that the electrical installations and equipment are tested for their proper condition at specific time intervals." Often only the cleaning of the installation can restore the proper state.

* Safety regulations for work with electrical equipment: • 1. Disconnect mains! • 2. Prevent reconnection! • 3. Test for absence of harmful voltages! • 4. Ground and short circuit! • 5. Cover or close off nearby live parts!

What has to be considered?

As a general rule the cleaning of disconnected, voltage-free installations has priority over the work under voltage! Only in exceptional cases the cleaning under voltage is allowed (BGV A3 §8).

Application case analysis

First an application case analysis has to be carried out at the electrical installations which are to be cleaned. By that the choice of products and their quantity as well as the operational steps which are actually to be carried out, the measures and decisions, such as e.g. for work alive or voltage-free, are to be determined.

Safety regulations

Work alive: For the cleaning under voltage all sets of rules and regulations for the work under voltage have to be considered. The cleaning work is exclusively to be performed by especially trained persons.

Voltage-free: The usual safety measures for the work at electrical installations have to be considered, e.g. the work has to be carried out by qualified electricians.

It is recommended to employ only experts also at a disconnected, voltage-free installation for the electro wet cleaning.

Work clothes/tools

Work alive: Special protective clothes and insulating tools which protect against the dangers of an electric shock or the formation of an electric arc.

Voltage-free: Usual protective clothing for the use of liquid cleaning products, such as e.g. mask, protective goggles, gloves.

Responsibility

A responsible person for the work has to be determined for the cleaning of disconnected, voltage-free installations as well as for the work alive.

How can one clean voltage-free installations?

Example of the cleaning of a switch cabinet:

1. Considering the 5 safety rules* the installation is disconnected from voltage
2. Remove loose contaminations
3. Line the bottom of the switch cabinet with absorbent cloths, foil
4. Eventually dismount or cover components
5. Pre-cleaning with Rivolta O.C.X.
6. Main cleaning with Rivolta S.L.X. Top
7. Eventual subsequent treatment of the components with Rivolta S.L.X. 500
8. Remove the laid-out cloths
9. Dry the installation completely and totally
10. Grease the contacts with Rivolta S.K.D. 4002
11. Lubricate other metal/mechanical connections with Rivolta S.K.D. 16
12. Lubricate locking cylinders with Rivolta T.R.S. Plus
13. Cleaning of the outer surfaces of the switch cabinet with Rivolta B.W.R. 210
14. Switch on the installation again

Important: This work schedule does not claim to be complete. An examination of the exact circumstances and the determination of the work steps which have to be carried out can only be realized individually by an expert on-site.

How can live cleaning be done?

1. Exclusively with special cleaning agents, e.g. Rivolta S.L.X. 500
2. With trained and authorized experts for electro cleaning for work alive

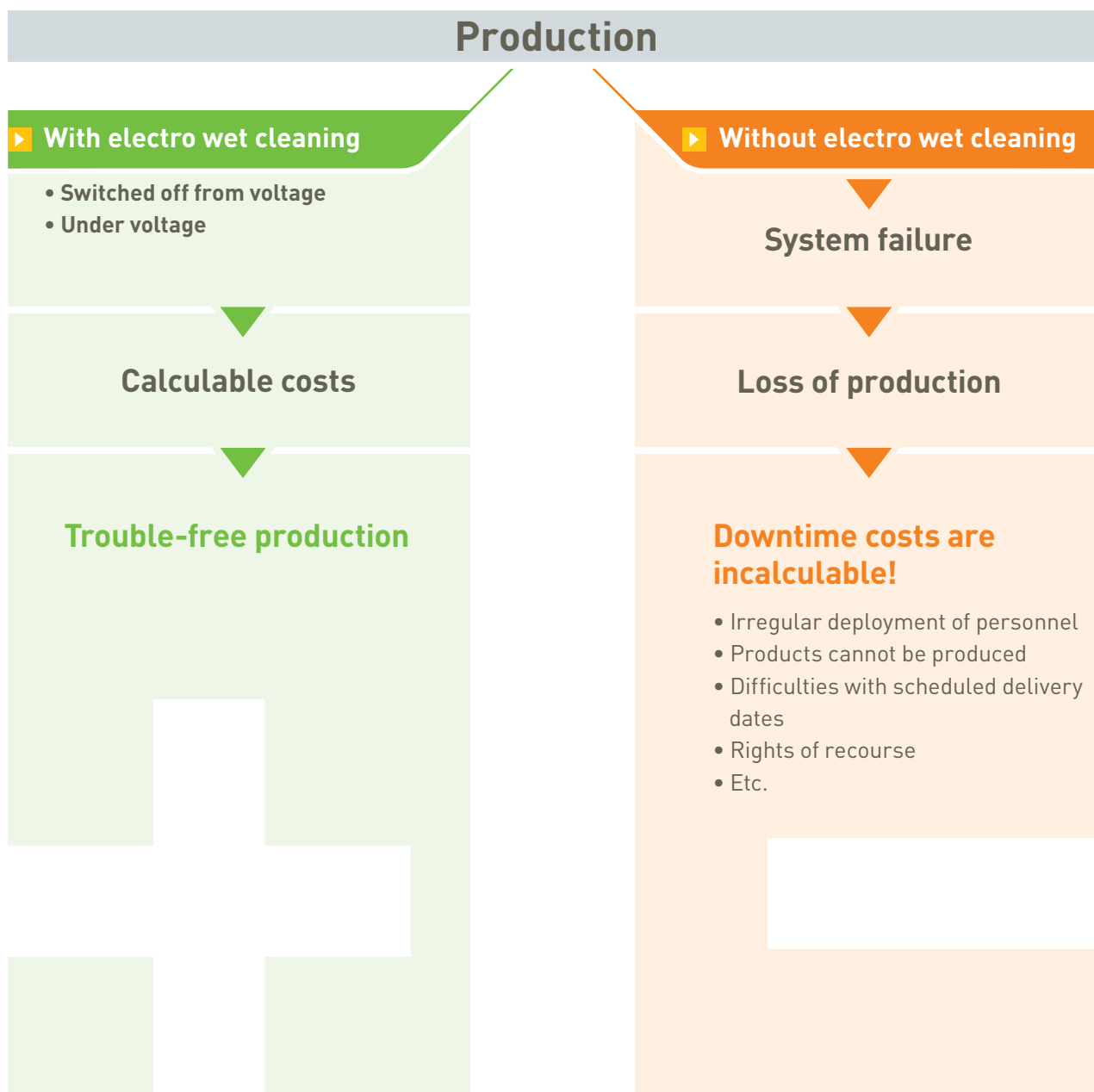
Examples for work alive, where a switching-off of the electrical installation is not possible without problems:

- Airports: runway lighting
- Hospitals
- Steel industry: melting furnaces
- General production processes, where the electrical machines cannot be switched off



Which advantages does this type of cleaning offer?

Today concepts of maintenance and service primarily have the task to guarantee the highest possible technical availability of the installation. The method of wet cleaning of your electrical installation thus offers you a safe possibility to avoid disturbances and failures and thus to lower follow-up costs.





The procedure of wet cleaning offers many advantages over ordinary methods, such as e.g. the dry ice cleaning. Thus a more thorough and complete cleaning is achieved, as the liquid flushes the dirt also out of gaps and undercuts which the solid matters of the dry ice do no reach.

Furthermore our products are used at room temperature. Thus no danger results from this cleaning method that fine cracks at e.g. plastic parts are formed by undercooling (dry ice -78°C cold). Beyond this the fluctuating temperatures at the surfaces of the compo-

nents can also cause condensation humidity and lead to the corrosion of metal components.

Regarding the health and safety protection at the workplace the electro wet cleaning offers more security. The used products do not have to be stored separately. Damage to the skin, e.g. a burn – as it is possible in contact with dry ice – is excluded. Likewise the processing devices are quiet, easy to handle and inexpensive.

Before the cleaning



After the cleaning



How does the system works?

To achieve a perfect cleaning result und to guarantee a trouble-free workflow we recommend a system of 3 components.

▶ 1. Products

Special Rivolta-Products, like cleaners, contact greases and fine oils.



▶ 2. Devices

Optimal processing devices, such as the B&L Airless device and the B&L Industrial dryer.



▶ 3. Qualified employees

A specially qualified and experienced service provider, e.g. our long-term partner:



Wallstein Service GmbH
Hubertusstr. 44
45657 Recklinghausen, Germany
www.wallstein.de

Contact person:
Mr. Frank Boos
Mr. Andreas Kaßen
Tel.: +49 (0) 23 61 / 10 47-0

or by trained / authorized staff of the customer respectively by an own service company.

Knowledge – that is needed Develop – what offers safety

Electro cleaners

S.L.X. 500
Special safety cleaner



Work alive possible. For the cleaning of all electrical installations and devices (e.g. electrical switch cabinets, distributions etc.)

S.L.X. 1000
Special safety cleaner



Work alive possible. For electronics and mechanics. For the cleaning of highly sensitive electronical facilities, components and devices

S.L.X. Super
Electro-safety cleaner



Safety cleaner for all electrical installations, devices, motors, etc.

S.L.X. Top
High performance electro-cleaner



High performance cleaner for all electrical devices and components (e.g. switchgear assemblies, welding transformers, generators and electro motors)



Complementary products

B.W.R. 210 Water-based cleaning concentrate		Universally applicable cleaning concentrate, to clean e.g. cable ducts and housings of switch cabinets
M.T.X. 60 forte Intensive cleaner		Intensive cleaner with special cleaning intensifiers and fast evaporation to clean among other things cables, to set cable junction boxes
S.L.X. Rapid Universal rapid cleaner		The universal rapid cleaner for electric and electronic components
O.C.X. Oxide remover		To remove oxide and sulphide layers, oil that became resin and greases as well as metal abrasion on electrical contacts of all kinds
W.S.X. Moisture-protector		Protects electric components against failure caused by moisture

Contact greases

S.K.D. 3602 High-pressure high performance grease		Extremely adhesive and weatherproof contact grease for the outdoor area
S.K.D. 4002 High-temperature high performance grease		Ageing-resistant and fully synthetic contact grease for the indoor area
S.K.D. 5001/5002 Highest temperature greases		Contact greases for extreme media or temperature loads for the indoor and outdoor area

Maintenance products

S.K.D. 16 Inside bearing lubricant for chains		To lubricate mechanical connections, like levers, joints, ropes and chains
T.R.S. Plus Creep oil with lubricating factor		Multifunctional creep and fine oil to release and get going seized precise mechanical parts. Especially suitable as door lock spray

Many further products and their application possibilities on request respectively when an application case analysis is made.

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