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The new technology of CoatingOFF

The innovative eddy-current decoating process with *CoatingOFF* enables the energy-saving and fast

cleaning of electrically conductive components in the immediate vicinity of the system.

A special decoater creates an eddy-current underneath the coating layer.

This generates heat, which vaporises a thin coating layer in direct contact with the metal.

The adhesion of the coating is broken.

After exposure to the eddy-current, which only lasts for seconds, the components are mechanically

cleaned, e.g. with the aid of brushes.

Thanks to the reduction of energy consumption, waste materials and emissions, the process is beneficial from an economic, logistic and ecological point of view.

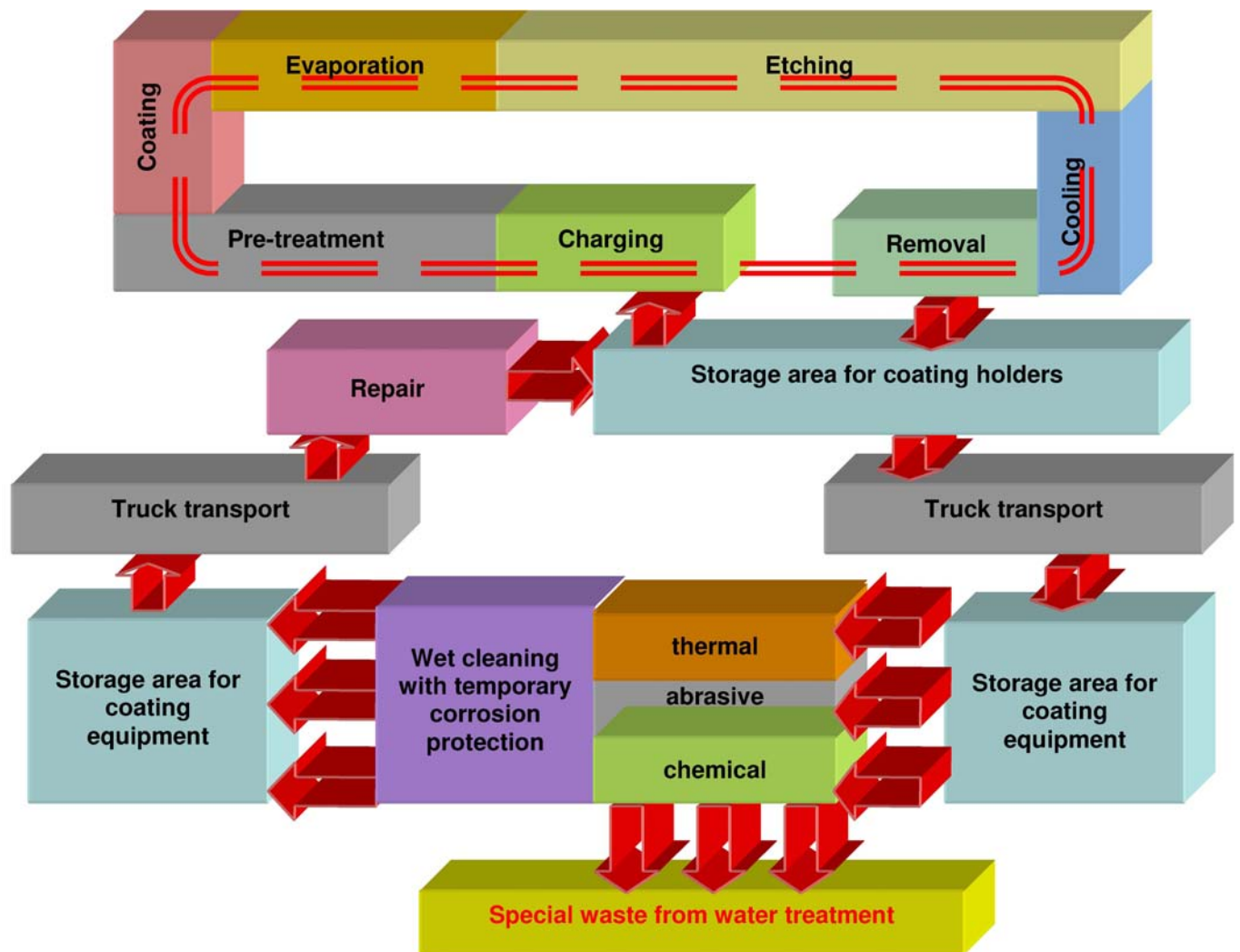
The economy increases in line with the weight of the holders. Both the complete holder or only a specific part of it can be decoated.

The advantages of eddy-current decoating

- . • Metals can be cleaned of all types of paints, rubber, adhesive and foam coatings
- . • No chemicals are required
- . • The removed coating is inert
- . • Short decoating time
- . • Relevant areas or complete components can be decoated
- . • Greater coating process reliability
- . • High decoating flexibility
- . • Can be integrated into existing coating systems
- . • Low energy consumption
- . • No water/waste water required
- . • Washing and phosphating processes can also be omitted

External decoating logistics

A coating works must be ready to deliver at all times. On the production line, the component holders become covered with overspray, reducing both the charging capability and the electrostatic conductivity: the overspray must be removed from the holders. The previous decoating time, including logistics, is often longer than the usage time during coating. At least one more set of holders has to be kept available in order to cover this decoating time. In the case of external decoating, the holders to be cleaned must be removed from the coating system, moved to the storage area for coating holders to await transport, delivered by the next available truck to the decoater, decoated, sprayed down with a high-pressure cleaner, and if possible given a temporary corrosion protection, returned by the next available truck to the coating works, checked and repaired if necessary, and finally returned to the storage area for further use. During this process, the coating holders remain unavailable for use on the coating system for several working days. Since work has to continue during this time, extra sets of holders are required.



The basic eddy-current decoating system

The basic eddy-current decoating system requires an area of approx. 3 m² and weighs about 60 kg.

A 16-32A, 400V, 50Hz socket is sufficient for the power supply, depending on whether a speed-regulated brush unit can be connected.

The system requires only one power connection, and no fresh or waste water lines.

Vapours created are removed by an extraction system fitted by the customer.

The components

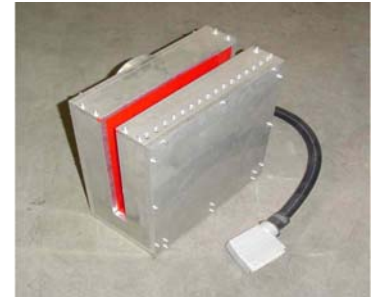
The switch cabinet The following assemblies are installed in the switch cabinet:

- The main electrical connections
- Controls
- The eddy-current generator



Basic unit

The decoaters In the decoater, an eddy-current is created below the coating layer. This generates heat, which vaporises a thin coating layer in direct contact with the metal. The adhesion of the coating is broken. The decoater is equipped with a power connection and an air extraction system, which serves for cooling the decoater. The following types of decoater can be used with the basic unit:



Flat decoater Rectangular decoater U-Decoater

The brush unit

Static or rotating brushes can then be used to remove the detached coating layer. The design and

layout of the brushes is adapted to the components being cleaned.

The brush unit is designed for fitting to a work-table, with two brushes rotating in opposite directions,

one above the other.

The brush speed is fully adjustable by means of a frequency converter.



Brush unit without housing, showing the two rotating brushes

Description of work procedure

The coating holders can be removed direct from the conveyer, decoated, and replaced in the conveyer.

Operation can be carried out by suitably trained auxiliary personnel, or as part of full time, part-time or service work.

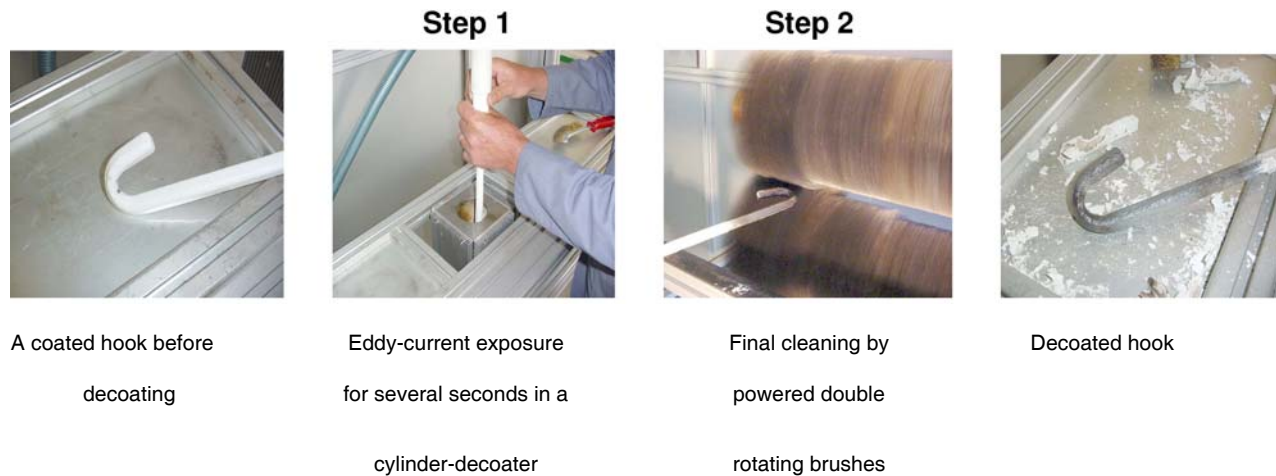
The air required for extraction of the vapours and cooling of the decoater is provided by the customer's extraction system.

The parts to be decoated are fed to the decoater, where they are cleaned within seconds by the eddycurrent, and then given a final mechanical cleaning. The parts are exposed to eddy-current by pressing the hand-switch.

Static or rotating brushes can then be used to remove the detached coating layer. The design and layout of the brushes is adapted to the components being cleaned.

As a rule, final cleaning is carried out by a powered rotating brush unit next to the decoater.

The decoating process takes place in two steps:



For other types of components, the decoater can be replaced by another type in approx. 1-2 minutes.

All that is needed to do this is to disconnect the power supply between the decoater and the front panel of the system, and the air extraction hose on the decoater itself.

The temperature setting is governed by the eddy-current exposure time and by the power setting, both of which are set by means of potentiometers on the front side of the system (in the working area).

The system requires only one power connection, and no fresh or waste water lines.

Vapours created are removed by an extraction system fitted by the customer.

Application examples

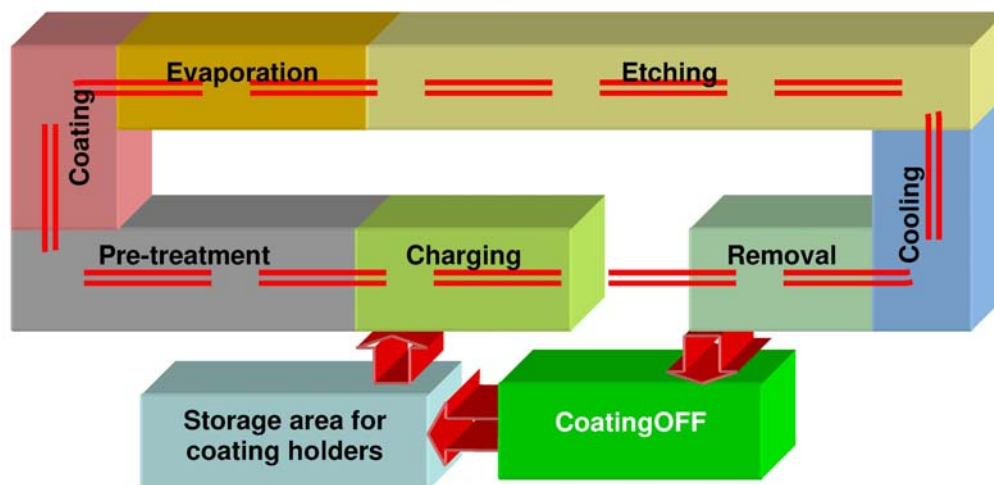


Partially decoated hooks with powder-coating Coated and decoated hook with powder-coating

Decoating logistics with a basic eddy-current decoating system

The *CoatingOFF* device is located close to the coating system. In the ideal case, the following working procedure can be used:

- Conveyor > Decoating > Storage area
- Storage area > Decoating > Storage area
- Storage area > Decoating > Conveyor



The standard eddy-current decoating system

The standard eddy-current decoating system requires an area of approx. 10 m², is 2.10 m high and weighs approx. 400 kg. The system does not need to be bolted to the floor. For a 10 kW system, a 32A, 400V, 50Hz socket is sufficient for the power supply.

The components

The basic unit The basic unit is constructed of aluminium system profiles. It can be lifted and transported with the aid of a trolley-jack. The feet are equipped with setting screws for alignment of the system. The system is enclosed by aluminium panels. The housing is accessible through doors for the purposes of installation and maintenance work. The following assemblies are installed here:

- The main electrical connections
- Controls
- Up to four eddy-current generators
- Multi-stage air filtration unit

The work cabin The addition to the basic unit is a specific customer work cabin, which is designed according to the parts to be decoated. The work-table with coating catchment bath, the decoaters, the brush unit and the cabin dimensions are all customer-specific.



Standard system with a rectangular decoater and double rotating brushes