

es

## Wire cleaning, treatments & finishes

### Continuous electrolytic processes for perfect wire surface

Germany-based Staku-Anlagenbau GmbH has grown over 30 years in the field of surface treatment for wire, strip and profiles into a specialist in developing galvanic processes for pre-treatment and refinement of metallic semi-finished products. Specialist staff in the company's own laboratory work permanently on the improvement of existing processes as well as the development of new processes for optimal solutions, which are realised in the engineering department. Finally, in its workshops Staku builds complete production devices. The company has now introduced esystems – continuous electrolytic processes for the perfect wire surface.

One of the processes Staku has developed is eclean. A precondition for coating and further treatment of ferrous and non-ferrous metals is a clean surface. Conventional degreasing and pickling methods require relatively long treatment periods. In contrast, the eclean continuous process only needs a fraction of the usual treatment time, and Staku claims the cleaning results are better.

Another process developed by Staku is ephos. This technology is a patented continuous electrolytic zinc-calcium phosphating process used for the coating of cold heading and steel wire material. In-line production enables the user to perform the de-scaling and phosphating process in one pass. Optimum cold-forming and drawing results are obtained by the 100% coverage of wire surface. The fine crystalline structure of the electrolytically deposited zinc-calcium-phosphate layer quickly dries and provides, due to the zinc proportion, very good corrosion protection.

Advantages of cleaning and coating wire surfaces with esystems include short treatment periods, lower consumption of chemicals, lower bath temperature, avoidance of waste water to neutralise, and no creation of bath pollution.

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### Automatic wire cleaning plant

ITF Group is a supplier of integrated solutions for surface finishing systems, including cleaning, degreasing, de-burring, and dry and wet-blasting. The know-how and experience gained in 30 years of activity allow the company to provide customers with a wide range of personal solutions across customised machines.

One of ITF's special solutions is represented by the automatic plant for metal wire cleaning and degreasing. This kind of plant is studied and projected for automatic washing of up to 24 wires running continuously, contaminated by draw residuals. Standard machines are designed and manufactured from a single passage line. The line is composed of more passages during which the wire is invested by mechanical and chemical actions.

The cleaning cycle can be composed of: spraying washing, ultrasound cleaning, spraying rinsing and final drying phases with blown forced air. In the loading and unloading area, located on the opposite site of the plant, are realised plates for wires complete with ceramic brushes.

Distinctive features of this flexible wire washing plant include: large cavitation power of ultrasound, assisted by microprocessor; ultrasound tank equipped with pump for continuous level reintegration connected to the pad tank; and ceramic brushes with high strength in order to let the wire run as smooth as possible.

The compact machines are designed to lie on the floor without the need for ground foundation. Internal parts are constructed from AISI 316L stainless steel, and external parts such as faring and structure (which are not in contact with the liquids) are made from AISI 304 stainless steel.

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