

MAFAC

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Friedr. Dick cleans heavily soiled
knife blades with the
MAFAC PALMA



DICK

Traditionsmarke der Profis

User report

Friedr. Dick GmbH & Co. KG

Cleaning as a key process

At the company Friedr. Dick in Deizisau, heavily soiled knife blades are cleaned by MAFAC inside the PALMA.

“Since we’ve been operating the PALMA, our blades have been really clean. Above all, however, they are dry and do not need to be subsequently dried by hand,” says Thomas Takacs, head of production. Less than a year ago, the cleaning process at Friedr. Dick in Deizisau was completely converted. MAFAC’s aqueous cleaning system has replaced the previously used continuous cleaning system. Since then, the knife specialist’s blades, which are heavily soiled after polishing, have been cleaned in the MAFAC machine - with an excellent cleaning result. But that’s not the only thing that convinced those responsible: “We have also been able to shorten throughput times and reduce water consumption,” says Nikolaos Tziouvaras, deputy foreman in production.

The knife specialist

The company Friedr. Dick in Deizisau can look back on a history of more than 235 years. The product range of the family-owned company includes tools and machines for butchers, sharpening and grinding machines as well as files and tools for craftsmen and industry. One focus is on the production of chef’s knives, butcher’s knives and hoof knives, for whose quality and design Friedr. Dick has already received several awards. Every year, well over one million knives leave the Friedr. Dick factory halls, which were originally in Esslingen, Ger-

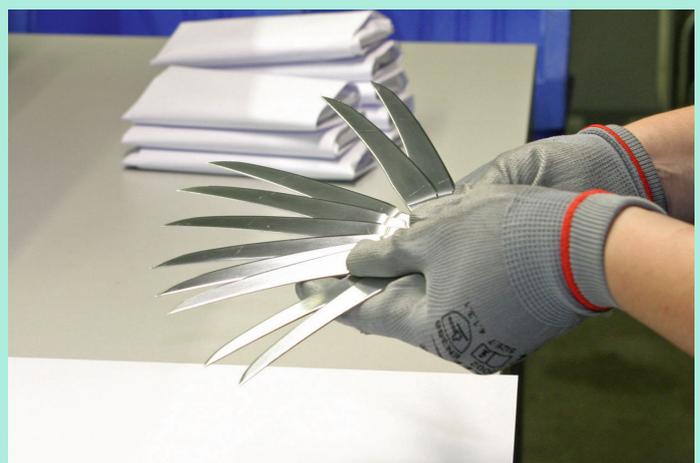
many. They have been located in Deizisau since 1997. In addition, the high quality products are manufactured in a branch plant in Bayreuth. As the specialist for knives, Friedr. Dick GmbH & Co. KG is established worldwide with own sales offices in China, Italy and the USA. The parent company in Deizisau employs about 180 people.

Blades for butcher’s, chef’s and hoof knives are cleaned

More than 5,000 blades for butcher’s knives are cleaned daily at Friedr. Dick. This accounts for about 80 percent of the total cleaning volume. The remaining 20 percent is spent on cleaning the blades of chef’s and hoof knives. The stainless steel blades of the butcher’s knives are first punched. They are then ground and polished. The polishing paste used for this process causes heavy soiling on the blades. These must be cleaned before the plastic handle is injection moulded. “For us, cleaning is a very important process within production. The blades, whether for butcher’s, cook’s or hoof knives, must be absolutely clean. They must not contain any residues, not even water stains,” says Nikolaos Tziouvaras.

Conversion to the PALMA chamber system

Until the beginning of 2017, cleaning was carried out in a continuous cleaning system - with moderate results. The blades weren’t dry enough in the end. They had to be manually re-polished by two employees. Thus, those responsible decided to convert the cleaning process to a chamber system. Convinced of the cleaning result, they opted for PALMA,



the three-tank system from MAFAC. The first contacts between the two companies were already established in 2008. Even back then, we had the problem that the blades had to be dried by hand after leaving the continuous system,” says Thomas Takacs. In 2008, extensive cleaning tests were carried out at MAFAC’s factory-owned technical centre in Alpirsbach. “We have now been able to build on this excellent preparatory work. The cleaning result immediately fitted, so that we were able to put the PALMA into operation quickly,” adds the production manager.

15-minute cleaning process

Since the blades of the different knife types exhibit different degrees of soiling prior to cleaning, a total of three programs are stored in the PALMA. The blades of the butcher’s knives, which are polished, show the strongest soiling with the polishing paste. Therefore, this cleaning process has the longest running time of 15 minutes. The blades of the chef’s knives are not polished and are therefore relatively easy to clean.

The blades of the hoof knives are made of normal steel and are therefore very susceptible to rust.

Cleaning – Rinsing – Rinsing

Regardless of the program, the cleaning process is divided into a wet and a drying phase. Two thirds of the cleaning time is spent on the actual cleaning. During this process, the three PALMA holding tanks are used as follows: Pre-cleaning with a cleaning agent in two percent concentration is carried out via tank one. As supporting technology, the PALMA installed at Friedr. Dick is equipped with an ultrasonic cleaning system. “In this way, a large part of the soiling is already removed,” says Nikolaos Tziovaras. Afterwards the blades are rinsed off with the water from holding tank two and the water from holding tank three, to which a special rinse aid is added.

Special drying system

The cleaning process is followed by drying, which covers the remaining third of the total cleaning time. The special hot-air drying system from

MAFAC is used to this end. The workpieces are first blown off in a pulsed manner using highly pure compressed air. Next, ultra-finely filtered hot air is applied to the parts.

Blades are fixed in place

The polished surface of the blades is very sensitive. It must not exhibit any scratches. For this reason, the blades are fixed for cleaning in basket inserts specially manufactured for this purpose. The spray cleaning method developed by MAFAC is used during the cleaning process: The multi-sided spray frame is equipped with a special nozzle arrangement and rotates around the basket receptacle system. The movement of the basket receptacle system, which could theoretically rotate in the opposite direction to the spray system, is reduced to a 30 degree rocking movement. In addition, the cleaning chamber is flooded up to the height of the batch. During the drying process, the blowing system rotates around the basket receptacle system, which is also subject to a 30 percent rocking motion.

Bath service life of one week

The PALMA is running in two-shift operation. Approximately 500 blades are cleaned per cycle. All three medium tanks are filled with demineralised water, which is processed in the in-house system. The bath service life is one week. “The polishing paste produces foam. To prevent the blades from becoming stained, we have to change the water every week,” says Nikolaos Tziovaras. The holding tanks of the PALMA are of cascaded design. Holding tank one is equipped with a coalescence oil separation system with integrated floating suction device and with main stream ultrafine filtration to filter out fine dirt particles. Medium tank two is provided with bath care. The PALMA is served by two employees per shift. The employee working at the polishing system also feeds the cleaning system. Once the cleaning process has been completed, another employee takes out the basket receptacle system. She subsequently checks the blades and packs them.



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