

Tableting tools: increased resistance and minimized maintenance effort

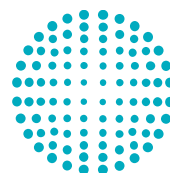
Schwarzenbek, June 10, 2024. For efficient and high-quality tablet production, the tableting tools used must be able to withstand the highest loads and be in top condition at all times. The Tableting Tools division at Fette Compacting offers a wide range of solutions: from innovative materials and coatings to a comprehensive handling and cleaning system.

Tableting tools such as punches, segments and dies make a significant contribution to overall performance in tablet production. Fette Compacting's product portfolio covers the common range of internationally standardized punch designs and also offers customized solutions for special requirements. The decisive factor is the tableting specialists' many years of experience in the overall solid production process. Their knowledge of the interaction between tablet press, tableting tools and accessories such as bellows and dust caps ensures optimum tablet quality.

New coating for increased loads

In recent years, machine performance and production volumes in tablet production have increased. This trend has an impact on the tableting tools, which are exposed to ever higher loads due to pressing forces and accelerated processes. At the same time, auxiliary materials are increasingly being saved for cost reasons or the quality of the auxiliary materials fluctuates, which increases the tendency to stick. In addition, it is necessary for machines to withstand hard, coarse-grained and therefore abrasive materials.

A special coating effectively counteracts phenomena such as adhesion and abrasion: chrome nitride super smooth (FCG-SCR) has the best non-stick



properties as well as high degrees of hardness and wear resistance. The basis for this is an unprecedentedly fine and homogeneous microstructure, which achieves even better results than PVD chrome (PCR) or conventional chromium nitride (CRN) in terms of adhesion.

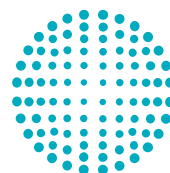
This anti-sticking coating can be applied to almost all tableting tools. The new coating is part of a comprehensive portfolio of material and coating solutions that users can use to cover practically every case in the production of drugs and food supplements. The easiest way to find out which is the best choice in each case is to conduct application tests at the Fette Compacting customer center at the Schwarzenbek site.

EasyCare: system solution for handling and cleaning

In addition to the quality of the tableting tools, their regular cleaning and care also determine their long-term usability. With its EasyCare handling and cleaning system, Fette Compacting supports customers in the care of their tableting tools and helps to minimize errors. This is achieved by making the cleaning process as automated as possible and complies with Good Manufacturing Practice (GMP).

One critical step in tool cleaning is transportation. Fette Compacting has developed a patented case system with different types of cases for the various tools. It contains special trays (inserts) with predefined positions for punches, segments and dies. The tools can thus be transported safely and, after cleaning, stored protected from environmental influences such as moisture and heat. Users can remove the trays directly from the case and place them in the cleaning machine. This means they do not have to touch and move the tools individually – saving time and reducing the risk of damage.

Together with its partners ARUNA AG and Borer Chemie AG, Fette Compacting offers a coordinated system solution for cleaning: The trays fit



exactly into an ARUNA cleaning system on the designated transport trolley to perform automatic surge cleaning. Cleaning and corrosion protection agents from Borer Chemie AG clean the tools without leaving any residue.

Compared to other common cleaning methods, e.g., manual and ultrasonic cleaning, surge cleaning offers maximum operational reliability and reproducibility. The corrosion protection implemented in this cleaning process is important, as it subsequently protects the tools against rust.

After cleaning, the tools should preferably be polished mechanically. An automatic polishing machine from Nortec is used for this. It specializes in polishing tableting tools and has special holders for punches and dies. After tableting, the punches are brought back into optimum condition, with the polish also counteracting the stickiness of certain products. Depending on customer specifications, it may occasionally be necessary to clean the tools again.

The system-supported PartSite® from Gühring tool management rounds off the EasyCare handling and care solutions. It provides information on the condition (data collection) and availability of the tools, thereby ensuring reliable tablet production.

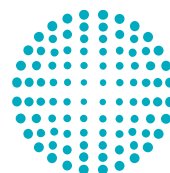
About Fette Compacting

With more than 6,000 installed machines, Fette Compacting is the world technology leader in integrated solutions for industrial tablet production. The company has specialized in high-performance machines for the pharmaceutical, nutrition, and chemical sectors for more than 75 years.

The company has its headquarters in Schwarzenbek near Hamburg. A second technology and production site is located in Nanjing (China) and another development location is in Mechelen (Belgium). Fette Compacting is represented in more than 50 countries around the world and is a member of

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the LMT Group, a medium-sized, family-owned group of companies. Around 1,800 people are employed at more than 20 locations worldwide. The Group achieved sales of around 380 million euros in fiscal 2023. www.fette-compacting.de

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