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Tool suppliers in times of change

Germany-based **Wallram Group** outlines the tooling developments it has seen during its 50 years in the field

After its six-year break, Metpack 2023 was an opportunity to not only see old friends and business partners again, but also to experience the latest developments in metal packaging first-hand. The numerous exhibitors present had used the long hiatus since the last trade fair to present an impressive programme with an array of new developments.

One of the many participants to this year's show was Wallram Group, which was honoured at the event in Essen, Germany, for its 110-year history. At the same time, Wallram was able to celebrate 50 years in the field of can tooling, during which time the group has seen much change.

While steel tools had a firm place in the manufacture of metal packaging for many years, despite wear problems, the advantages of carbide and later, ceramic, and its significantly better durability were recognised.

Here, Wallram also became part of the business as a carbide manufacturer. The developments accelerated from there: ceramics and specially coated steel were introduced and further optimised. Today, individually configured carbide, different ceramics and coatings are standard. The question of whether the current choice of material is still up to date should always be scrutinised. Ongoing analyses of the current state-of-the-art and increasingly demanding customer requirements are important.

In addition, there are a wide variety of surface textures that are created in the manufacturing process of the tools. Special knowledge of tool processing, especially in the grinding process, is required.

Lizzini Punch Grinder at Wallram's Essen plant

Beside the tool manufacturers, the drivers of these developments were also the customers, who tried to reduce costs and, above all, make significant material savings and sustainability strives with ever smaller wall thicknesses. Additionally, the high demands from the customers of can manufacturers changed the market permanently: mergers to create global, powerful can makers were the necessary result. This was also not without consequences for the suppliers and thus also the tool manufacturers.

As a result, it became increasingly difficult for some local manufacturers, who operated can tooling as a by-product alongside other product areas, to meet the volume, quality and product support requirements of global customers. This led to the emergence of specialists in this area who were positioned worldwide and could therefore react flexibly to changing customer quantity requirements, and actively support customers in the application with their market and product knowledge.

Then, with the emergence of new markets for the can, primarily through craft breweries and wine makers, another element came into play: smaller batch sizes alongside a growing variety of can sizes and shapes. After the focus had previously been on the process-optimised production of larger quantities of tools with a similar design, a high degree of flexibility was now also required. Smaller quantities of tools had to be manufactured in a short amount of time. Optimising set-up times played a major role, so that the faster changing of tools in the machine was still cost-effective.

Some of the biggest changes can be seen in the production of tool manufacturers.

Despite numerous changes in material and design, a punch does not look significantly different than it did many years ago. However, a worker from the 1950s would no longer recognise his or her workplace today; manually operated machines have given way to machines with CNC controls, and physically demanding activities are carried out – or at least supported – by robots. The usual workshop production was replaced by an optimised flow production with automated feed and transport routes.

This is a development that will be intensified by increasing digitisation: while the analysis of production data is already standard today, intelligent systems will automatically recognise possible improvements in the future, suggest them, or even implement them independently. This change was and is accompanied by the need to continuously invest in state-of-the-art equipment and to consistently train and develop employees' skillsets.

The importance of the tool should not be underestimated: in relation to the purchase price, it seems to be a subordinate product compared to the machines and the material – but the consequences of compromises in the precision and quality of the tool can be devastating. The consequential costs of production downtime and loss of scrapped cans far exceed the price of the tools. One should not save in the wrong place here.

With production facilities in Germany, the USA and Poland and customers in all parts of the world, Wallram Group is globally active. Its production capacities are constantly being expanded. An investment programme in machines and equipment of 15 per cent of the annual group turnover was initially announced in 2021. Since then, 25 per cent has been invested in this area.

The main focus of Wallram's investment was on grinding and turning technology, but the area of quality control was also significantly strengthened. In addition, a completely new production hall was inaugurated at the group's Poland location, and in the US, the complete steel processing was moved to an additional hall to create additional expansion areas for the grinding applications. At the same time, staff numbers were increased to serve the additional capacities. Currently, additional personnel in Wallram's engineering department are working on product improvements through contact with customers, but also with universities and research institutes.

There are different approaches to the area of raw materials. While some tool manufacturers emphasise the advantages of in-house production, others rely on the optimal selection of suitable suppliers for the respective application. Wallram continues to focus on tool optimisation through ideal grinding processes, which can be achieved with the group's own grinding machines (Wallram Grindtec - Lizzini).

However, customers and tool manufacturers are jointly faced with the task of optimally designing the tools for use, monitoring them in can production and using the knowledge gained in this way to further optimise the tools, as well as find the best possible settings for the machines and systems. Just like everyone else, Wallram must have the right specialists ready for this.

The group is a family-run business that has passed through several generations. Long-term partnerships and the stability of the business relationship from which both sides benefit, are the result of a philosophy that thinks first in generations and only secondary in short-term results.

Overall, the requirements of the market have increased significantly; in particular, flexibility and the ability to respond to short-term customer requirements without compromising precision and quality, have become increasingly crucial. The suppliers of metal packaging products have had to react to this and make the necessary improvements, and thus their suppliers have too. Cooperation is the key to further improvements, as it is a joint task of all parties involved to continually advance metal as the most sustainable packaging material. CT

Mix of ceramic and carbide for can tooling