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STEKA: Specialist for Small Series and Prototype Development Widens its Portfolio

Steatite, a classic material in technical ceramics, boasts high temperature resistance, tracking resistance and dielectric strength, and it is therefore an ideal insulating material for applications in electrical engineering. Speciality porous materials made of cordierite are used especially for applications that require high thermal shock resistance.

Historical milestones

STEKA – Werke Technische Keramik GmbH & Co KG, based in Innsbruck/AT, has 65 employees and generates annual sales of around EUR 5 million. Steatite, the material mainly processed, gave the company its name STEKA, the Tiroler Steatit- und Keramikwerke, when the company was founded by Ferdinand Rojkowski in 1949. Rojkowski had gathered experience working in the field of insulators at the Siemens Schuckertwerke, and in 1946, began making electroinsulating components from ceramic at Daniel Swarovski in Wattens/AT. Swarovski then concentrated on the production of crystal glass, but supported his partner in founding STEKA in Matrei am Brenner/AT, which continued to manufacture steatite and electrical porcelain components. As a result of the growth of the company, a new building was erected in 1961 in Innsbruck-Rossau. Otto R. Dax was Managing Partner from 1975, first responsible for sales, building up the exports market. Later, he was additionally responsible for technical management. His father had already held shares in the company. With Markus Dax, son of Otto R. Dax, taking over the commercial management in 2005, the 3rd generation of the family stepped up.
Markus Dax had previously gained professional experience at Siemens in Germany, Austria and the USA. Following the death of his father, Markus Dax (MD) took over all the shares in the year 2011. In a talk with us, he presented his company.

CA: *STEKA's work focus is the manufacture of components for applications in electric heat, installation engineering and light engineering, predominantly made from silicate ceramics. How is the company positioned on the market?*
MD: We are very export-oriented, Germany, however, is easily the most important market. Our main competitors are there, too. But historically, STEKA has made a name for itself in the manufacture of small series of products and prototyping.
My father studied in Germany and gained professional experience there. We were particularly associated closely with the company Stettner in Lauf/DE, which, when my father managed the company, also had several shares in STEKA. That was very valuable as we were able to share technology insights. We were often the basis for the introduction of new processes as the scale of our production operation was better suited for initial test runs and modifications. In addition, we have implemented buying syndicates, especially for raw materials.
We use dry presses and extruders. The heart of the manufacturing process is certainly our own toolmaking and the associated know-how in design. Consequently, with our

Fig. 1
Markus Dax

Fig. 2
View into the production process

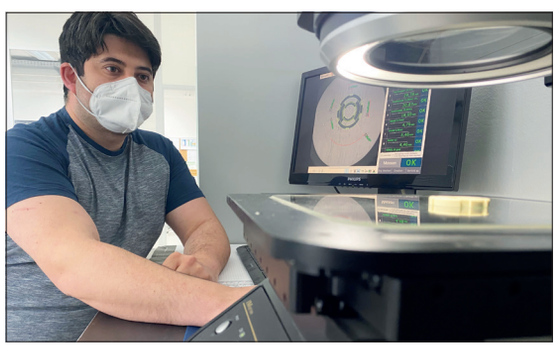

Fig. 3
Quality assurance

Fig. 4
STEKA products *(Figs.: STEKA & Die Fotografen.at)*

team of toolmakers and fitters, we can quickly realise frequent tool changes that companies equipped for mass production sometimes aren't able to do. Of course, we can also manufacture large piece numbers.

CA: *Are you thinking about widening your manufacturing range?*

MD: In a first step, we are in the process of modernising and digitalizing our manufacturing lines as the geometries of the required components as well as production monitoring are becoming increasingly complex. In the case of pressing technology, we have already completed this, and now we are in the process of technologically upgrading our extrusion equipment, too.

CA: *With regard to complex component geometries, is Additive Manufacturing a factor?*

MD: We have been addressing that for a long time and have so far only had parts manufactured externally for special projects, thereby gaining experience in their design. With regard to the further development of the technology for industrial application, a lot is happening at the moment. But, ultimately it will be the sum of the functions that ceramic components will take over in future to make the assembly processes more efficient at the same time that will determine when we actually go into the technology ourselves – but it is on our agenda. Similarly, we are also working with external partners in CIM technology.

CA: *What research and development partnerships do you have?*

MD: As I mentioned earlier, my father has always had close ties with Germany. But I am delighted that we have found a very competent partner for material sciences in the University of Innsbruck. The fact that we are geographically close has many advantages with regard to measurements, but also in joint work on research projects. For example, as part of projects, we have developed porous materials, which can now widen the product portfolio and open up new applications. Otherwise, our development is very market-driven, in cooperation with customers.

CA: *How have you organised your market development?*

MD: For sales, I hold the main responsibility. As owner, I also want to be the business contact for our customers. We have developed further here because we also support our customers as consultants when it comes to those ceramic components that we don't make ourselves. That is not a classical dealer role as we look at the application in detail, select the best material solutions and check which standards and certificates apply. So our know-how is growing steadily and that makes us interesting as a project partner for others.

CA: *How do you operate outside the German-speaking D–A–CH countries?*

MD: We supply products, for example, to Asia and South America. The business has, however, been mainly passed on to us by our customers, i.e. internationally operating companies that supply locations outside Europe with our products. In addition, there are partnerships, for example with Nishimura Advanced Ceramics in Kyoto/JP, where there are repeated efforts to supply to Japan.

CA: *What special challenges have you had to face with COVID-19?*

MD: I am relieved that we have reached a vaccination rate of over 80 % since November 2021. For individual employees, some support and advice was necessary to convince them to join us on this path, which stabilises work safety for us all. Back in 2020, we quickly equipped ourselves to use the new communication channels that have now become standard today to save time and travel costs. For that reason, we, of course, value personal talks and want to take part as exhibitor at in-person events like Hannover Messe and ceramitec.

CA: *Thank you for talking to us.* KS