

Germany

# Quality as a Trademark: Sourcing, Production, Final Assembly, Packaging, On-Time Delivery

New: MoSi<sub>2</sub> heating elements "made in Germany".

M.E.SCHUPP Industriekeramik GmbH und Co. KG was established by **Michael Ernst Schupp** in October 1996. Its initial business concentrated on trading products for high-temperature applications, with the focus on the temperature range 1250...1800°C. With the launch of a pilot production for high-temperature adhesives and coatings in cooperation with a Japanese partner, a first production process was started up at the company's Aachen-based facilities in March 2003. In that year, just six people were employed, who nevertheless generated sales totalling EUR 1,5 mill. Two years later an investment programme was launched, and by the end of 2007 EUR 2,5 mill. had been invested, mainly to set up production of high-purity MoSi<sub>2</sub> heat-

ing elements, but also to expand the production of the HT adhesives and coatings and strengthen the international sales network and customer support. The business year 2007 saw the company, now with 22 employees and four trainees from ten nations, achieve a sales volume of EUR 5 mill. The three mainstays are: MoSi<sub>2</sub> heating elements, polycrystalline Al<sub>2</sub>O<sub>3</sub> HT wool products and special ceramic components (e.g. PTCR temperature control rings) for HT furnaces and kilns to 1850°C. The company supplies products to ceramics, refractories engineering and powder metallurgy, but also to the glass, dental, semi-conductor, jewellery, ITO (indium tin oxide) for LCD screens and metallurgy sectors. **Michael E. Schupp (MS)**, entrepreneur and managing director at the



Fig. Michael Ernst Schupp

company, is counting on further growth and is targeting sales of EUR 10 mill. for the year 2010, with a planned 40 employees. He spoke to us about strategic considerations.

**cfi:** In a period of just three years, you have not only re-defined but successfully shifted the focus of your company's business activities. The production of MolyCom Ultra MoSi<sub>2</sub> heating elements started up at the beginning of this year was a key investment. What expectations do you have for this line of business?

**MS:** By 2010, it should bring in over EUR 3 mill. in sales. The traded products from the heating element sector currently have a 20-% share in our turnover. In Europe we aim to rank Number 2 after the market leader Kanthal. Thanks to our structure as a comparatively small company, we can offer a very good, individual customer service. On account of our size, we have a favourable cost structure which we pass on to our customers and sales partners in our pricing. But in the first place we want to get a share in the increasing market demand and stand up to imports

from manufacturers outside Europe. The world market for MoSi<sub>2</sub> heating elements is currently valued at EUR 50 mill. In keeping with our high quality standards, we supply high-purity heating elements for technically sophisticated applications (e.g. dental systems). As we produce the elements according to the "hot bending" principle, we avoid crack formation and therefore lengthen their lifetime. The production plant (investment volume EUR 1,5 mill.) is installed on 800-m<sup>2</sup> footprint and is equipped with its own testing and measurement laboratory. Certain, more advanced quality tests are contracted out to external partners.

**cfi:** Since 2006 you have marketed your MolyCom-Hyper heating elements made by a Japanese high-tech production partner. What prompted you to go into production?

**MS:** With the rising price of molybdenum oxide on the world market,

namely the tenfold increase to over 50 USD/lbs in the last ten years, the labour costs began to seem small compared to the required material costs. With the technology developed by us and our partners we can produce highly pure heating elements in small and large dimensions (diameter from 3/6 to 12/24 mm and in lengths from 150 mm to over 2 m). We do not just supply standard elements for direct replacement, but customized heating elements as well as furnace assemblies complete with heating elements. Here we benefit from the fact that we also supply modules and needle blankets, boards and tubes made of polycrystalline Al<sub>2</sub>O<sub>3</sub> wool and other key components for high-temperature furnaces and kilns to 1850°C. This way we are regarded as a system supplier for component assemblies. The current strain with regard to energy costs can be eased to an



Fig. 1  
The Schupp-Team



extent with the use of efficient heating elements and high-quality insulating materials. We can see that from the rising demand for these products.

**cfi:** The know-how for the two product lines was imported partly from Japan and partly developed in-house. Are you planning to extend your in-house production?

**MS:** For 2008 we are not planning to order any PCW  $\text{Al}_2\text{O}_3$  shapes, but to produce the polycrystalline shapes ourselves, here in Aachen, with vacuum shaping system because then we can respond faster and more flexibly to requests for the production of very complex-shaped and precision components. In addition we save on the expensive storage of a large numbers of tubes.

**cfi:** Who is behind ITM Japan?

**MS:** ITM (Insulation Technology Materials) is a subsidiary of the insulating materials group *Isolite Insulating Products Co. LTD/J.* with 80 employees and goes back to the establishment of *Toshiba Monofrax*, which was initiated in 1966 by *Toshiba Ceramics* and *Carborundum*. Back in 1982 the first "FIBERMAX" polycrystalline wools were produced. In 1996 Carborundum sold its shares to *Saint Gobain*. Isolite took over the high-temperature wools division in 2005 and established ITM. ITM reports annual sales of around EUR 30 mill. and produces 400 t.p.a. FIBERMAX  $\text{Al}_2\text{O}_3$  polycrystalline wool in Japan. Positive for me back in 2002 was to find a partner with whom we can work on an equal footing. We are a SME with a very family-oriented working climate, i.e. constructive cooperation based on mutual respect, and form a committed and competent team. On this basis, we can work together highly professionally and efficiently in our international network of expertise. Humane people management, securing above-average motivation and allowing us to pack a punch in the international market is very important for our long-term business strategies. With ITM we have found a partner to match our high quality standard for products as well as business processes and customer support. We therefore see a good basis to further intensify our cooperation.

**cfi:** Japan with the activities you mentioned earlier has become your premium partner in respect of product and know-how sourcing. In an interview you gave us in 2004 you spoke about selected suppliers from China. What happened here?

**MS:** As we said at the time, we found very good partners. In the last few years, however, the domestic demand for these products has grown exponentially in China: The result was that our extremely high quality standards were no longer reliably met. I had to react. We have positioned

our product portfolio in the high-end sector and don't want to jeopardize this. But we see Asia in general and naturally China in particular as an important export market. Many Chinese already want the best available materials today, investors from Europe, USA and Japan operating in China won't take any material risks when it comes to certain processes. Accordingly, we are expecting good growth opportunities for our business in the next few years.

**cfi:** What is your export quota?

**MS:** It stands at 60 %. Around 35 % of our exports go to Europe including Russia and 25 % to Asia (China, Japan, Korea, India). Besides growth opportunities in Asia, we are also counting on short-term successes in Russia and Eastern Europe.

**cfi:** It is your company's mission to offer top quality at fair prices. How do you hold your ground against cheap products?

**MS:** By the time we present ourselves at a new customer we have already sounded out whether the customer only buys by price or by price/performance or whether the customer is perhaps working on problem solutions for special requirements. If cheap products can do the job, then we have no business there. Besides our product range, we can offer professional technical and commercial consultation. We make a great effort when we assemble and complete products to make sure these are user-friendly and we package them specially. Packing is currently a project where we are developing better solutions for the customer. Premium products must arrive at the customer's premises securely packed to eliminate transport and handling damage during storage and installation.

**cfi:** Many thanks for talking to us. KS

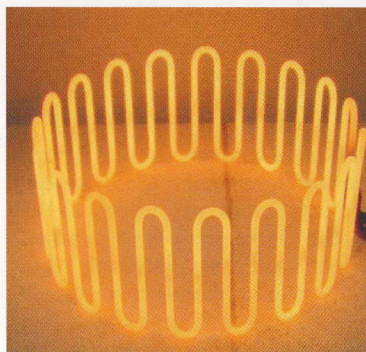


Fig. 2 SCHUPP®-MolyCom-HyperHeater



Fig. 3 SCHUPP®-MolyCom-Ultra Heating Elements

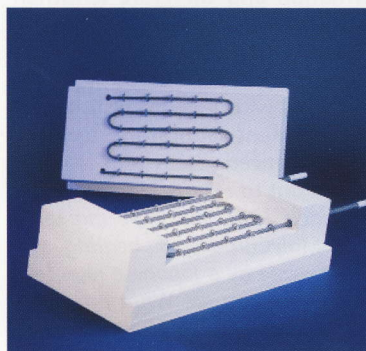


Fig. 4 SCHUPP®-MolyTec Heating Systems

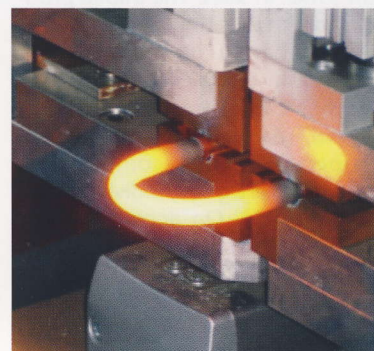


Fig. 5 MolyCom Hot Bending process