



# CLAY PERFECTION

since 1924



**GOERG & SCHNEIDER**  
Clay · Chamotte · Ceramic Bodies

## TRADITION

» One name for generations.  
**GOERG & SCHNEIDER.**

On 1st September 1924, Benedikt Goerg and Alois Schneider founded the unlimited mercantile company GOERG & SCHNEIDER in Siershahn (Westerwald). The company has specialised in the extraction and treatment of clay for over 90 years. Since its establishment it has mined many deposits of this natural raw material, mainly in the Central Westerwald.



The aim of the company is to develop and produce market-orientated products that comply with the quality requirements and expectations of our customers. This involves flexibility not only in the composition of the raw material mixtures, but also in the delivery methods and supply readiness. In this way we can develop complete raw material solutions for discerning customers while taking into account company capacity and employees' needs.

GOERG & SCHNEIDER has always been a classic family company whose legal form is GmbH u. Co.KG, in the sole ownership of the GOERG family, It is now in the third generation of management under the personally liable managing partner Dipl. Wirtsch. Ing. Hartmut Goerg and his wife Dipl. Betriebswirtin Martina Goerg. The fourth generation is already preparing for succession.

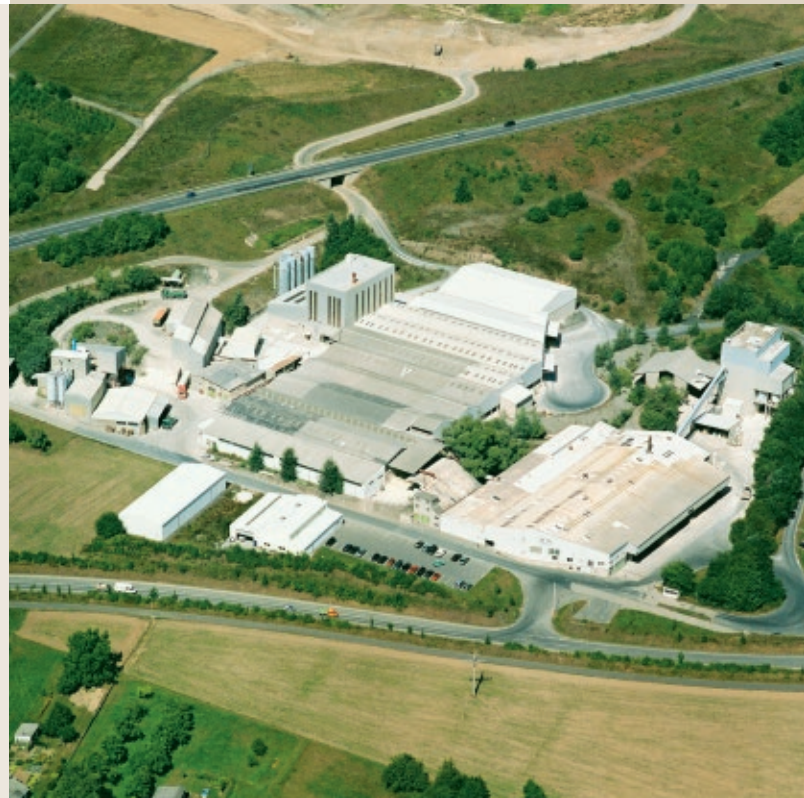


Hartmut Goerg



Martina Goerg

GOERG & SCHNEIDER is one of the leading companies in the Westerwald for the extraction and preparation of clay ceramic raw materials. These form the basis for customized clay mixtures, raw chamotte and bodies for the fabrication of ceramic and fireproof products. We have produced plastic- and pottery bodies for 25 years.



## VARIETY

» Raw material supply  
and individual raw  
material solutions.  
**GOERG & SCHNEIDER.**

The mined kaolinitic-illitic clays are found only in the Westerwald. They are the essence of continual product innovation and development. The present range of products results from selective extraction being graded by quality combined with preparation and other modern further processing. In addition to product manufacture, GOERG & SCHNEIDER offers such services as laboratory analysis, excavation/tipping, weighing and arrangement of suitable transport.



Quarry-wet raw- and blended clays are extracted from different clay deposits. As lump clay they are mechanically crushed. In order to achieve the required mixtures, GOERG & SCHNEIDER puts together several raw clays in a precise ratio. They are then homogenized by a horizontal and vertical interspersion in several blending- and homogenisation plants. The company has mainly light- and white firing raw clays for the application in all building ceramic fields.



Milled clays are produced by drying and dry grinding on the basis of shredded raw clays. They have a residual moisture of about 1 % and a fineness of  $<100 \mu\text{m}$ . The required milled clay mixture consistency is created by the fully automatic blending of the single components and the subsequent intensive circulation and mixing process in the homogenisation silo.



The white-, yellow- and red firing raw kaolin is extracted from a primary deposit in the Taunus area. The slate-like raw material is mined selectively and separately stockpiled according to quality. Due to their positive drying and firing properties, the raw kaolin is especially used as an additive in the bodies for the casting- and building ceramics.

## VARIETY

» Bodies of  
**GOERG & SCHNEIDER.**

Bodies are produced by mixing milled clays and other mineral raw materials, such as feldspar, calcium silicate and chamotte. The type and quantity of these aggregates determine the bodies' product properties. The mixing and homogenization of components in an air current are electronically controlled operations. Bodies are available as powders, in pellets (about 10 % - 12 % humidity) or as extruded plastic bodies (about 18 % - 25 % humidity).



Plastic bodies are formed in lumps by means of a vacuum press. These are sold to customers within the industry or in 10 kg pieces to potters and hobby ceramicists. The body properties and composition are tailored to specific applications, e.g. throwing, pressing, stamping, coiling or modelling. A wide firing range of between 1000 °C and 1300 °C makes it possible to obtain various firing colours whose colour stability depends solely on natural raw materials.



Casting slips with corresponding rheological properties, such as a wide deflocculation interval, are based on special raw material components that are suitable for this. Standard casting slips are available as well as tiles- and special casting bodies developed to meet customers' specific requirements.



GOERG & SCHNEIDER offers a high-quality English porcelain body with fine translucency. Its very good processing properties and high degree of whiteness make it exceptional. The firing range is between 1220 °C – 1280 °C

## VARIETY

**» Raw chamottes.  
GOERG & SCHNEIDER.**

Chamotte, Raw chamotte, is solely fired clay. Its properties are determined by the selected clays, their mixing ratio and the firing conditions. For the fabrication of chamotte, several shredded clays are mixed, homogenized, moistened with water and plastic formed and extruded in a press. After cutting in 15 kg – 20 kg portions, an automatic setting plant piles up the clay lumps on kiln cars.

First the clay lumps are dried at about 200 °C. The subsequent firing is carried out in a modern tunnel kiln whose firing system ensures consistent quality. Depending on the quality and requested properties of the raw chamotte, different firing curves with a max. firing temperature of 1350 °C are used.







The fired chamotte lumps are pre-crushed and subsequently ground. The “low-iron” grinding ensures also an extensive elimination of low-magnetic components. The following sieving classifies the chamottes in different grain fractions which can be combined to form customer specific grain sizes.



The milled chamottes are dispatched in bags, big bags or in bulk (by silo-truck). As a “semi-finished product” they cannot be used alone but form part of other applications, for example casting bodies in sanitary ware or in earthenware ceramics. They are applied in semi-wet prepared structural ceramic bodies for the production of plastic extruded slabs and tiles, or in bodies for large-sized ceramics.

## RELIABILITY

» Production  
continuity.  
**GOERG & SCHNEIDER.**

The clay mine deposit near Boden has had the highest production capacity for many years. It has the company's biggest long-term clay-reserves. These have been approved provisionally until 2068. This deposit has the company's biggest mixture- and homogenisation plant and has its own rail loading facility.



The clay deposit "Stoß" in Haiger-Langenaubach has very light- and white firing clays with an exceptional dry bending strength. Individual qualities are contained in numerous mixtures for the tile- and sanitary ceramics as well as earthenware- and fine stoneware ceramics. The opencast clay mine has its own mixture- and homogenisation plant. Quartzite is extracted as a by-product: this can be marketed in rough-cut or milled form.

The raw kaolin deposit near Kettenbach/Taunus has white-, yellow- and red firing sericitic kaolin respectively clays with exceptional drying properties. They are mainly used in the clinker- and brick industry. The white firing quality is mainly applied in the casting ceramics. The current and future operating- and extraction area for raw kaolin is 20 ha with about 1.5 million tons of usable raw kaolin (of that abt. 2/3 is yellow- and red firing).



As co-owner of company MTG Mittelhessische Tonbergbau GmbH & Co.KG, Gießen, GOERG & SCHNEIDER has access to the raw materials which are extracted and prepared there.



## QUALITY

» Dependability and availability.  
**GOERG & SCHNEIDER.**

Quality control of the products starts with the exploration of the deposits on site. First exploitable deposits are pegged out by means of core drilling. Strata profiles, arising from the drill holes in the fine-meshed system of coordinates, provide information about quality and quantity on the clay zones. Sampling at the face controls the production process in order to ensure consistent production quality.



Quality testing and assessment are performed continuously during processing of the different products. This is done using representative samples most of which are taken directly from the material flow mainly by means of automatic samplers and sample dividers. The essential parameters in the raw material specification sheets are defined by DIN regulations, the recommendations of the German Ceramic Society (DKG) and customer-specific agreements.

### Analysis in our central laboratory:

**Raw clay:** chemical composition, firing behaviour, castability, dry bending strength, sieve residue.

**Lump chamotte:** water absorption, firing colour, coefficient of thermal expansion, chemical analysis.

**Milled chamotte:** particle-size distribution, magnetic residue.

**Milled clay:** particle-size distribution, firing colour, firing shrinkage, chemical analysis.

**Bodies:** Drying- and firing shrinkage, porosity, plasticity, workability, castability and body formation.



Quality- and energy management optimize the effectiveness and guarantee process- and product quality. Certification in accordance with ISO 9001:2008 confirms the continuous process improvements and supports global competitiveness.

## SUSTAINABILITY

### » Environment for generations. **GOERG & SCHNEIDER.**



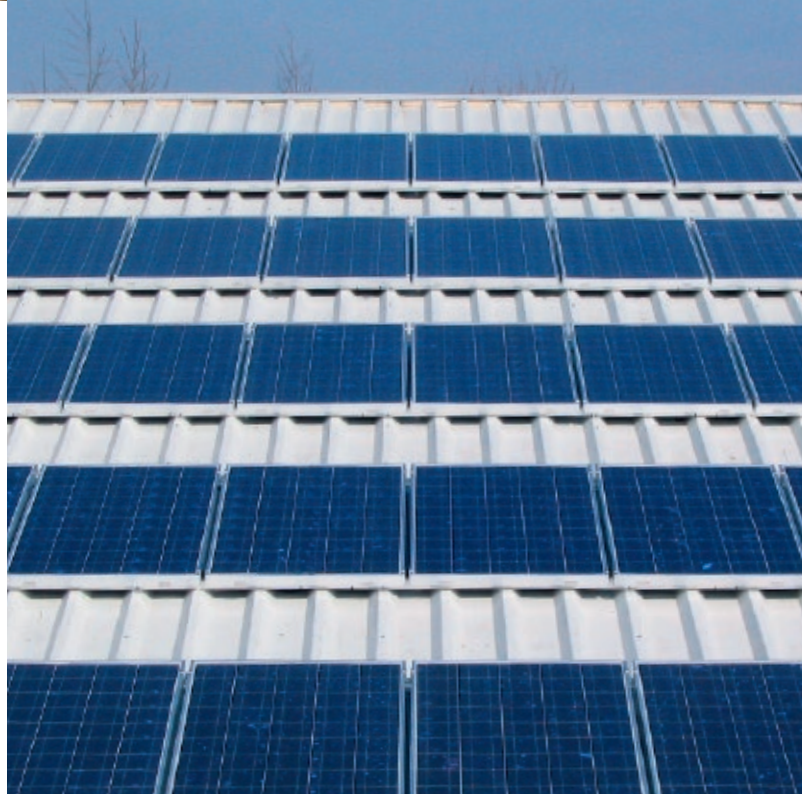
Prior to the clay extraction, which implies interference with natural raw materials lying just under the surface, GOERG & SCHNEIDER has carefully drawn up plans prepared by experts in site exploitation planning. These plans regulate extraction, preparation and re-cultivation during the entire working life of an extraction site.

Imission- and emission forecasts in respect of noise and dust form a basis for technical safety measures in order to ensure admissible level sound limits in the preparation plants. They also guarantee emission limits for the grinding plants and tunnel kiln. Precipitation water from the opencast workings and the plant area are led in settling basins. A maximum part of the water-muddying clay particle sediments before flowing into public waters.



GOERG & SCHNEIDER attaches great importance to energy efficiency. Plants and vehicles are state-of-the-art. Electrical devices are constantly maintained as are energy saving lamps and motion detectors. Buildings are thermodynamically controlled and photo-voltaic plants reduce the CO<sub>2</sub> emission. Since 2012 the company has established an energy management system and was awarded a Rhineland-Palatinate raw material prize in the same year.

Through low-waste product design- and processing as well as reusable big bags and pallets, the company reduces the packing material and meets the legal packing regulations. Raw clay transport to the customer is carried out either by truck or by wagon via our own rail access.



## KNOW-HOW

» Fully-qualified staff who know their business. We trained them ourselves.  
**GOERG & SCHNEIDER.**



GOERG & SCHNEIDER is not only a family business, but is also family-friendly. The GOERG family greatly value the loyalty and trust of their employees. Company celebrations, the honouring of jubilees, sport activities and a modern social centre contribute to staff welfare. Holiday care for pupils offers parents facilities for child activity and supervision during the school holidays.

GOERG & SCHNEIDER invests in future employees through five different apprenticeships: "Industrial Management Assistant", "Industrial Mechanic", "Industrial Ceramist Plant Engineering", "Industrial Electronics Technician" and "Materials Tester Ceramics". Young people can gain the necessary expertise within a 3 to 3.5 years training period. After finishing their apprenticeship they can take advantage of many further education opportunities to improve professional qualifications.



# Deutschland STIPENDIUM

German scholarship



Within the framework of the Deutschland-scholarship, GOERG & SCHNEIDER supports talented and motivated students with their major in Materials Engineering, Glass and Ceramics as well as Stone and Earth. Experienced personnel assist with bachelor or master's theses in these fields. There is the opportunity to complete an internship lasting several weeks, which offers first insights into the working world and different job fields.

Regular participation in seminars ensures an up-to-date know-how. Employees' further education is facilitated by release from work or by financial contribution. In particular GOERG & SCHNEIDER supports ambitious junior employees doing further education to State Certified Ceramic Technician. This further education, shaped by both sides, normally leads to a responsible position in the company.

## SALES

» Perfect clay has perfect dependability.  
**GOERG & SCHNEIDER.**



GOERG & SCHNEIDER operates not only within Germany, but is also represented by agencies in other European countries. A total of around 400,000 tons of ceramic clays, raw chamotte and ready-to-use bodies are produced, prepared and marketed annually. Exports make up about 50 % of all products sold and are distributed to a total of 20 countries with an emphasis on Europe.

Deliveries are mainly effected from the intermediate storage facilities at Boden either by truck, rail or barge from the Rhine port. For orders, consultation and service, experienced employees are on hand in Siershahn as well as at our foreign agencies. Ceramic-trained and experienced sales engineers play a prominent role in supporting the technical advisory service so that the customers receive the most suitable product from the wide product range.

GOERG & SCHNEIDER serves customers in all sectors of the ceramics industry. Stoneware applications, primarily floor tiles, dominate the sales of raw clay and chamotte. Beyond that, the earthenware sector for the production of wall and stove tiles, is an important sales area. A smaller amount of the products is used in the manufacture of ceramic sanitary ware and tableware as well as in the refractory- and acid-proof industry.

The ready-to-use ceramic bodies, available as powder, pellets and plastic extruded lumps are used in earthenware, stoneware, tiles and special ceramics. They are formed using a wide range of processes: throwing, stamping, pressing, coiling and casting and are available in a variety of fired colours. In addition to around 40 standard bodies, tailored problem solutions are developed.





**GOERG & SCHNEIDER´ s KNOWLEDGE and  
EXPERTISE have made CLAY for DECADES.**



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