Flame retardant mineral fillers

Mineral fillers are commonly used to impart flame retardant properties to otherwise easily flammable compounds such as rubber, paints and plastics. Non-toxic, non-corrosive alumina trihydrate (ATH) and boehmite (AMH) halogen-free flame retardant and smoke suppressant fillers are two of the most widely used compounds for this purpose. TOR Minerals International is one of the leading manufacturers of synthetic mineral fillers. Headquartered in Corpus Christi in the US, the company has subsidiaries in Europe and Asia. In Europe, sales and production are managed through TP&T (TOR Processing & Trade) B.V. which is located in Hattem in the Netherlands.

TOR Minerals is a global producer of high performance specialty mineral products. Founded in the US in 1973, it acquired the Dutch subsidiary in 2001 in order to give it access to new markets and a new line of specialty aluminas. At the same time Dr. Olaf Karasch was brought in to build up the Dutch operation. He was made CEO of TOR Minerals in 2006. “Our unique specialist manufacturing technology allows us to make synthetic mineral fillers,” says Dr. Karasch. “There is no other company in the US with a similar capacity.”

One of the key differentiators that sets TOR apart from its competitors is the high level of purity of its mineral fillers and the ultra-brightness of its whitening products. Key amongst these is titanium dioxide which is used in nearly all paints and lacquers to impart opacity and whiteness. TOR has developed two unique HITOX® and TIOPREM® beige and grey-coloured TiO2 pigments that offer cost savings by replacing more expensive colour pigments.

Another key product development in this area is TOR’s High Performance TiO2 extender. “This product provides the perfect complement to titanium dioxide and enhances its whitening properties,” says Dr. Karasch. “We are confident that there is huge market potential for this new product and are planning to build new production facilities for it in both the US and Asia.”

If TOR’s motivation for acquiring the Dutch subsidiary was product diversification, it has succeeded. “In 2001, the production and sale of titanium dioxide accounted for 85% of our business,” says Dr. Karasch. “Today that figure is just 25%. Our goal for the future is continued diversification through the development of new products that offer our clients advantages in terms of quality, effectiveness and cost savings.” The company has just invested four million EUR in its production site in Hattem which has resulted in a doubling of capacity. “Our research is focused on increasing the performance properties of our products and finding new applications,” explains Dr. Karasch. “By extending both the properties and application areas of our products we are able to reduce our dependence on any one sector.”
Interview with Dr. Olaf Karasch, Managing Director of TP&T (TOR Processing & Trade) B.V.

Although technical expertise is crucial to TOR’s product range, the company has not patented any of its developments. “We use highly complex production techniques to achieve the high levels of purity for which our products are known,” explains Dr. Karasch. “If we patented our developments, we would have to submit a detailed description of the production process, which would then enable others to copy them. Without patents, we ensure we have a head start over competitors.” At present, the focus of research and development is aimed at accelerating the process while maintaining quality levels. “We want to speed up everything we do in order to reduce the time it takes to get our products to clients,” says Dr. Karasch. “That means investing in production and in our internal processes.”

Sales are split between the US (40%), Europe (40%) and Asia (20%). “We enjoy very close and collaborative relationships with our customers,” says Dr. Karasch. “We have our ear to the market and respond to its needs. With customers in the plastics, paints, coatings and ceramics markets, TOR serves a diversified client base. In certain applications we are the market leader and in other areas we have a market share of 70 or 80%. Our focus is on maintaining and extending this lead.”