Hard material specialist

The relationship between hard materials/cutting tool manufacturer and supplier Ceratizit and its WNT cutting tool distribution operation may not be clear. Andrew Allcock makes it so

First, let's unravel the Ceratizit and WNT relationship in a legal sense. Ceratizit holds a majority stake in WNT's share stock, but there is a little more history to this situation.

Mamer, Luxembourg-headquartered Ceratizit is, in fact, the result of a merger (in 2002) between Plansee-Tizit, Reutte, Austria, and Cerametal, Luxembourg; both having hard materials and carbide cutting tool activities. Plansee and Cerametal had worked together before (1948 to 1962) prior to the merger, however, and Plansee-Tizit was the result of a demerger from the Plansee Group in 1985.

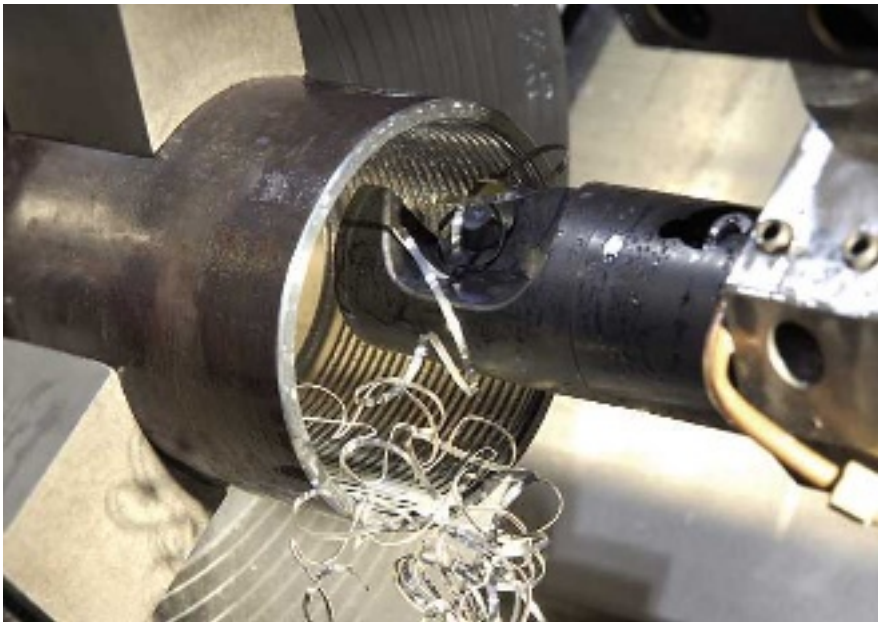
Plansee had a shareholding in WNT, established in 1987 in Germany from the beginning, and today Ceratizit is 50 per cent owned by the Plansee Group. The

Partnership product development

At the EURO PM (powder-metallurgical conference) in Ghent, 2006, organised by the European Powder Metallurgy Association, the best development in powder metallurgy cited Ceratizit and HILTI which together received the award for the first drill tip with a macroscopic gradient structure suitable for high volume production. The resulting TE-C3X Drillbit is used in drilling reinforced concrete and is made at Ceratizit in Mamer, Luxembourg. Ceratizit and HILTI started the research and work on this project some four years previously.

"The idea to produce such a tool is not really new," according to Dr Wolfgang Böhlke, head of the wear parts development department at Ceratizit, Luxembourg. "The special thing, however, is to manufacture such a drill tip in the production departments. Previously, it was only possible to manufacture a limited quantity with very simple geometries in the laboratory. The challenge was to manufacture complex geometries for production for orders up to 100,000 pieces."

Below, one of Ceratizit's own product focuses for its niche strategy (see box item page 32) is tooling for the manufacture of rolls for the steel industry. In the UK, Sheffield Forgemasters is a customer



The manufacture of carbide cutting tools is an output for Ceratizit, but it's focus is on metallurgy; the development of hard materials, carbide-based powder metallurgy, says Ceratizit member of the board Theirry Wolter, who himself hails from the company's R&D department

original sites, Mamer in Luxembourg and Reutte, Austria are the two key R&D and carbide insert production activities (Latrobe, USA, is also an insert production plant), but there are other production facilities within the group making wear parts or toolholders, for example. So that's the legal relationship; what about product and sales strategy?

MORE THAN INSERTS

Ceratizit does not just make inserts and toolholders for metalcutting. It makes its own carbide powder from purchased refined ore and then tungsten carbide products. It also develops and applies coatings to carbide substrates. These carbide products take in wear parts – balls for Bic biros, carbide cutting edges for metal, stone and wood applications; plus, for metalcutting, carbide rods supplied to others for the production of solid carbide cutting tools (Ceratizit does not make solid carbide tooling), insert blanks supplied to third parties and finished carbide inserts and toolholders. In addition, the company manufactures cermet, PCB, PCD and technical ceramic inserts (but does not produce the cutting edge material in this case). Ceratizit develops and supplies cutting tools (inserts and holders) to WNT, but WNT also sources product from others.

Overall, over 60 per cent of Ceratizit's revenue is drawn from metalcutting tools, this includes its WNT operation plus two other cutting tool business units – sales of bespoke inserts developed on behalf of third parties (other cutting tool firms or OEMs – see box, page 29) and the sale of a standard insert range (different to the Ceratizit range) to cutting tool suppliers wanting to expand 'own label' ranges: even if it doesn't say Ceratizit on the label, it may still be a product of that company, but most will not reveal this; neither will Ceratizit.

Both Ceratizit and WNT supply European end-users out of a central Kempten, Bavaria, warehouse, offering next-day delivery. But while WNT has a product offering encompassing some 50,000 products, Ceratizit's is about one tenth of this. And this difference is indicative of the two strategies which, says member of the board Thierry Wolter, are complementary not in conflict.

The WNT strategy from day one has been to provide the same level of service to SMEs as is offered by the larger cutting tool manufacturers to large OEMs. Easy access to a wide range of standard, quality cutting tools from a single source, backed by good on-the-road and office-based technical sales staff, and rapid next-day delivery, are key.

Ceratizit, on the other hand, aims to be "a market leader in selected sectors; a global player in niche markets," says Mr Wolter. Furthermore, the company focuses its efforts on large OEMs and their large suppliers, often developing products specifically for them, matching the tools to the customer's machine tools' capabilities: the same companies making the same parts with different machines may have different tooling requirements, Mr Wolter confirms.

DEFINED NICHE

But when he says niche, he really does mean niche, even down to component level (see box page 32). And if a request from a customer does not fall within its priority areas, then it will not offer to undertake development of a solution, either offering a standard tool or suggesting the company approach somebody else. And requests for low volumes of standard tools will, in the UK, probably see the requester referred to WNT, says Ceratizit UK managing director Vince Kelly.

In some cases Ceratizit and WNT do offer the same tool – high speed aluminium cutters, for example, are a shared offering. The difference is the amount of time and technical back up that can be applied in developing the application that sits behind the product, explains Mr Kelly, adding: "Whereas WNT UK's strategy is to grow its customer base year on year, serving small to medium sized companies, we have been reducing ours in the UK, but increasing the amount of business we do with each large customer. Whereas a WNT engineer will make up to 10 calls a day, one of our area

Component focus

Ceratizit's strategy is to be a global player in niche markets and this means focusing right down to component level. These components include:

- ❒ Automotive parts, taking in pistons; engine blocks; cylinder head, crankshafts; axles and wheel hubs; brake systems; and aluminium wheels (pictured, above)
- ❒ Aerospace applications, taking in wings, engine and landing gear parts that require: high speed aluminium milling; milling and turning of titanium; turning and milling super alloys; milling and turning heat resistant steel
- ❒ Railway parts, taking in axles, wheels and track
- ❒ The bearing industry
- ❒ Roll machining
- ❒ Oil and gas pipe machining and threading.

sales managers might spend the whole day with one customer talking about a large project. The customer base is entirely separate." According to Mr Wolter, Ceratizit's focus is "the only strategy that makes sense for us. It is the only way for us to be competitive against the big three. But in our niches, we are sometimes bigger than they are."

Ceratizit is, by admission, not one of the world's top three carbide cutting tool manufacturers – turnover to end-February 2008 is predicted as €600 million, and it employs 4,000. It is, though, one of the top three carbide product producers worldwide in terms of tonnage. This is because wear parts, a major part of its activity, can be large, hence the tonnage rating; and it is a top-five company measured by sales of carbide products. It makes more than 10 billion individual carbide parts per year, of which pen balls are probably half.

Other carbide tooling companies are not so involved in wear parts (which also includes wood and stone cutting products), or not to such a degree, says Mr Wolter; indeed, the company is number one in the world for wear parts, he says.

So, rather than think of Ceratizit as a metalcutting carbide cutting tool product producer, it is hard materials development, carbide-based powder metallurgy that is at the company's very core, Mr Wolter underlines: "We are a science-driven company. We are passionate about materials science and we have many engineers on our main board." Mr Wolter's background, in fact, is in metallurgy within the company's R&D labs in Luxembourg (there's R&D, carbide powder and product manufacture in Austria, too, but Plansee-Tizit did not make its own powder in Reutte prior to the merger in 2002; Cerametal brought this expertise to the relationship). The company has some 400-plus patents and boasts 100 employees engaged in R&D, while it also works with universities, mostly in Germany. This, then, underpins its specialised focus and tailored product development.

In the carbide cutting tool arena, Ceratizit does, however, claim some distinction: it is one of very few, if any, family-owned manufacturers of its size in the world, the board member further underlines. This gives it an independence and ability to take quick decisions and a longer term view, uninfluenced by shareholder pressure, allowing the company to develop innovative products based on its metallurgy foundation. "We can think about where we want to be in five years' time; a completely different philosophy to publicly owned companies." And this has allowed the company to develop, for example, its titanium cutting solution over the past five years which is now bearing fruit.

COMPLETE SOLUTIONS

In the non-carbide side of ceramic, etc, it has the edge on companies that specialise in these tooling areas because it can bring a complete solution of all cutting tool materials to bear on its chosen field of operation – all developed internally. "In the brake disc area there are people that offer carbide products, but who do not have a ceramic offering. On the other hand, there are ceramic specialists who do not have carbide in their range. We have both," underlines Mr Wolter. "And we do not care which material we sell, because we do it all. Others would have a preference." Laser machining of chip breakers into PCD is a particular example of how the company is pushing the boundaries in its non-carbide activities.

Ceratizit's chosen strategy has not been detrimental. Double digit annual growth has been the rule for Ceratizit since 2002 (with cutting tool revenues growing faster than those for wear parts), and this is set to continue, says the company; UK growth for both Ceratizit and WNT is a factor in this.☐