



Heat treatment of long knives at Ravne Knives, one of the world's leading manufacturers of industrial knives.

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LET'S CUT TO THE CHASE

Slovenia. With every product custom-made for a global audience, Ravne Knives must constantly improve product quality as well as productivity. The latest improvements have been reached with the use of CoroMill 490.

WITH A BACKGROUND in steel production in the Slovenia region that reaches back 400 years, Ravne Knives is today a world leader in the manufacture of industrial knives. The company is part of a larger group, SIJ (the Slovenian Steel Group), which is in turn a part of IMH – Industrial Metallurgical Holdings. SIJ comprises some six different companies

whose products and services range from high-quality flat and long steel to consumable welding materials, industrial knives and the training of disabled workers.

Ravne Knives makes knives for the wood industry. Applications include knives for veneers, knives for wood chipping and pulping and metalworking industry knives – a

variety of metalcutting knives and shear blades, knives used in the paper and print industries and knives for the rubber, leather and plastic industries. The type and size of the knives vary from circular to straight, and the company is capable of producing knives of up to six metres in length, and circular knives up to a maximum of 1,500 millimetres in



Finished knives with milled open slots. More than 40 percent of Ravne Knives need either open or closed slots.



Simon Kupljen, Sandvik Coromant representative (left), and Maks Klemenčič, Ravne Knives CNC programmer, discussing milling opportunities.

diameter. CNC machinery, high-grade steel, advanced heat-treatment technology and a highly skilled and motivated workforce enable Ravne Knives to produce some of the best industrial knives available on the market, and it is an important producer and supplier in the sector.

MANUFACTURING INDUSTRIAL knives depends on the highest standards of specification and production. Egidij Hudrap, chief of heat treatment, proudly shows the company's vacuum furnace, the leading facility of its kind worldwide. He stresses that Ravne Knives exemplifies "a synthesis between high technology and craftsmanship." Commercial director Janko Miklavc reinforces this. "We are constantly striving for an optimum

between hardness and toughness," he says. "Our managing director, Darko Ravlan, says that heat treatment gives the knife its soul."

In 1991 Slovenia voted for independence and, after a brief military standoff with the Yugoslav army, was recognized as an independent state by the European Union and admitted as a member state in the United Nations. Since then Ravne Knives sales have changed radically. "This period meant an adjusting of the commercial compass for us," says Miklavc. "Prior to 1991, our market focus had been very much to the East, taking up almost 80 percent of our sales. After 1991 we looked



Janko Miklavc, commercial director, Ravne Knives.

increasingly to the West." Sales increased rapidly to markets in Germany, Italy, Scandinavia, Britain and Asia, as well as the United States. And more recently, with an energy-buoyant economy feeding industrial growth, Russia has become a major customer. Miklavc talks about the importance of the company's position within the SIJ group at a time of increased demand for steel products. "There is an

important synergy from belonging to the group, a strength born of shared knowledge and experience," he says. "At Ravne we have an extensive and historic tradition in under-

A NEW LEVEL FOR FACE AND SHOULDER MILLING

By the end of 2003, Ravne Knives was faced with a challenge. The company needed to increase productivity whilst maintaining the quality of the milled slots and drilled holes that provide fixing points for its industrial knives. Although competitors were offering Ravne Knives cheaper tools, the Sandvik Coromant solution was to offer a tool that could do the work of a mill and a drill, dispensing with the need for two separate tools. Sandvik Coromant representative Simon Kupljen explains, "In 2006 we introduced Ravne Knives to the highly successful new working method ramping with CoroMill 390. At the time it was an ideal solution for Sandvik Coromant to offer Ravne Knives, both increasing productivity and

cutting costs." This year the company has started using CoroMill 490, a new member of the CoroMill family. "CoroMill 490 takes face and shoulder milling to a new level of precision and productivity," he says. "It's a new generation of highly accurate milling tools. Instead of two-edge inserts, CoroMill 490 has four, and we are using new improved materials for the body and coating. Combined with lighter cutting forces, higher parameters and even longer tool life, this is a state-of-the-art milling tool that is already bringing productivity and quality improvements to Ravne Knives." Marjeta Krof of Ravne Knives agrees. "It's an excellent solution for us, combining significant cuts in production costs and

less need for finishing with an increase in quality, and our production team appreciates the decrease in sound levels, too."

In addition to CoroMill 390 and CoroMill 490, Sandvik Coromant also introduced Ravne Knives to CoroDrill 880, a precision short-hole drill with four cutting edges that is capable of doubling productivity. As with all Sandvik Coromant tools used by Ravne Knives, the two companies evaluate effectiveness using Sandvik Coromant Productivity Analyzer software, allowing accurate assessment of production savings. ■

CoroMill 490



» standing metal and the manufacture and heat treatment of tool steel. It enables us to produce the best industrial steel knives in the world.”

THIS SENSE OF PRIDE and commitment to ever-improving quality in Ravne’s products reverberates throughout the company. “Every day we have to be better, and our objective is always to be the best,” observes Miklavc. And one notices this attitude throughout the company, from sales to manufacture. Every product – with the exception of paper knives – is custom-made, so prediction of future trends and demands, quality of production and productivity are vital. As Ravne Knives anticipates challenges in meeting customers’ future needs, suppliers also play an important role in helping the company fulfil customers’ expectations.

“We place great importance on our relationships with suppliers,” says purchasing manager Marjeta Krof. “With the introduction of CNC machines 14 years ago, the quality and durability of our tools became even more important. Sandvik Coromant has played a significant historic role in supplying tools for us.” The nature of the relationship between the two companies developed significantly in 2006, when they signed an open partnership

agreement. “It’s a fine partnership – truly symbiotic and unique in this area of tooling,” Krof says. “The partnership agreement has improved data management and allows us to work with Sandvik Coromant testing, evaluating and developing the right tool for the right job. We find it very easy to do business with Sandvik Coromant. They are innovative, responsive and efficient.”



Marjeta Krof,
purchasing manager,
Ravne Knives.

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MORE THAN 40 PERCENT of the knives made by Ravne Knives need either open or closed slots. Sandvik Coromant CoroMill 390 and, this year, CoroMill 490 play a significant role in the manufacturing process. Simon Kupljen at Sandvik Coromant points out that its mills have enabled Ravne Knives to achieve savings in the region of 15 percent of the company’s annual turnover. Watching Sandvik Coromant representa-

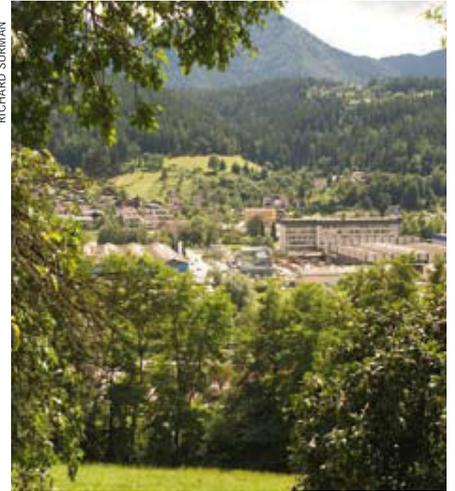
tives in discussion with Ravne Knives personnel at every level, from management and administration to production supervisors and machine operators, is inspiring. They are clearly two companies with a passion for excellence and a relationship built on mutual respect and a drive for success.

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Short-line supervisor Rado Polenik (left) and technical manager Stanko Vogel by a grinding machine.

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Ravne Knives is situated in the beautiful Slovenian countryside.

A RENDEZVOUS FOR TRADE

In 1945 Slovenia was incorporated into the Federal People’s Republic of Yugoslavia. In the 1950s, under the more benign Socialist Federal Republic of Yugoslavia, Slovenia managed to sustain a higher level of economic development than that of other member states. Benefitting from a skilled workforce, Slovenia built on strong industrial traditions, and by the mid 1960s the Slovenian economy was beginning to resemble a market economy. In 1990 the first democratic elections were held, and in the same year more than 80 percent of Slovenians voted for sovereign independence. A unilateral declaration of independence was made in 1991, and the following day an attack was mounted by the Yugoslav army. After what was termed “the 10-day war,” a truce was declared, and in October 1991 Slovenia adopted a new constitution. Recognition by the European Union followed swiftly.

Situated at the crossroads of Europe, Slovenia has always been well placed geographically to trade either east or west. Although Slovenes represented only 8 percent of the Yugoslav population, Slovenia had been responsible for more than a third of Yugoslavia’s exports. Since the 10-day war, taxation and labour reform combined with privatization have given impetus to Slovenia’s exports, and the loss of markets in the former federation has been more than offset by a shift to markets in western Europe and the rest of the world. More recently, the energy-driven boom in the Russian economy has also opened up strong export markets. Some 60 percent of Slovenia’s GDP is generated by the service sector, with finance, tourism and property becoming a significant part of the economy, and more than 30 percent of GDP is generated by industry. Steel, timber, chemicals, rubber, plastics, electrical and optical equipment, machinery manufacturing and vehicle assembly are principal sectors of industry in Slovenia. ■

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