

THE HOME DIAMOND



Part of the WideCut management, from the left John Han, Michelle Kim, Shelly Han and Dong-Won Shin.

OF WIRES

There is one word 'passion' to describe the company WideCut and its owner John Han. He has worked his whole life developing diamond tools and most of all professional diamond wires. "The strive to improve the cutting speed more and more is essential, but above that stands safety," said John Han.



That nothing is done by coincidence is rather obvious around WideCut. Even the new plant and office is a meticulous masterpiece that instantly reflects on what the company is dealing with. The spacious and futuristic three floors and 1500 m² large plant breeds professional diamond wire manufacturing. And that is what WideCut does, exclusively, with 100% of the production exported. Biggest foreign market is Japan with about a 35% share, followed by Europe with 30%. About 10% of the production is sold to the US, 15% to Asia and a remaining 10%

to other areas of the world. WideCut has two main product sectors, diamond wire for concrete and diamond wire for stone. Wire for concrete dominates completely with approximately 90%. Annually about 60,000m of diamond wire is produced at the factory and at this stage only about 25% of the factory's capacity is used. The current annual sales are US\$4M (EUR3M) with 18 employees.

A solid background in diamond tools

John Han is calm and humble. Not a man of big headlines

and has a vision and a passion carved in stone. He knows what he is doing, where he stands and where he wants to go. He is from the very south of South Korea and graduated with a major in Metal Engineering at a University in Korea. In 1985 he joined the Korean diamond tool manufacturer EHWA Diamond with his professor's recommendation. He made quite a career at EHWA and became the head of its research and development department. His main task was to develop and produce the first diamond wire in Korea. In 1996 Han was sent to EHWA's US

The new WideCut premises in Korea.





John's office overlooking the quite valley with a number of small industries and rice field in the distance.



John Han has developed and built most of the automated manufacturing machines himself. This particular machine thread the beads automatically on the wire.



Machinery bead setting are also developed by Han.

subsidiary, General Tool in California. His task was to set up a professional diamond tool production line. When his mission was completed he decided to embrace his long time dream and establish his own company. As diamonds were his passion he was convinced that diamond tools were a promising product. But at that time he felt that diamond wire needed more research. Diamond wire had, at that time, unstable quality, so his aim was to develop his own and started WideCut in 1998 focusing solely on diamond wire. That is why the company's slogan since then has been 'Only Wire'.

One man company

It was a small-scale business at that time. Han was founder, owner and the only employee in a 200m² office, research laboratory and production. But the timing could have been better. His start his business when Asia experienced a severe economic crises. "It was a difficult time, indeed. But what was driving me was the fact that I did what I loved to do and I have always liked challenges and in particular this type, to develop the perfect wire," said Han.

For the production he had bought a few used machines to start with. A situation that is completely different today. With the first production line set and a first range of products, Han started attending shows in Europe and US. By showing his products at exhibitions the number of clients increased slowly as well as the company. This was in 2001, the same year as WideCut's production manager Dong-Won Shin started to work for the company. Shin is still with the company and is now the key manager at WideCut and takes Han's place when he is not in the office.

The golden period

Progress continued and in 2004 the company moved to new premises. This was the beginning of the golden period for WideCut. The company established a good relationship with a partner company in Japan and in a few years Japan became the most important market for WideCut. Along with Japan WideCut's export business

grew significantly to other markets like EU, East Europe, South Africa and Americas.

In 2011 it took another important step. The production speed needed increasing to prepare for mass production. Han worked on a new larger production facility and built his 1500 m² factory from scratch.

Production was moved into the new factory in 1 July, 2011. At this stage WideCut began the process of a fully family run company. Han's first daughter Shelly got involved in the business and is marketing manager. Helen, his second daughter is majoring in business and financing and the plan is for her to join during 2013. Han's third child, his son Steve Han still has some more years of studying but will join when he is finished with his education.

Purely export

Since the start of the company the focus has been on export. Not one single metre of diamond wire is sold in Korea. "Korea is a small country with a large number of diamond tool manufacturers, actually some of the biggest in the world are Koreans," said Han. "For us to compete with them we would have needed a huge domestic sales force and a very strong brand name right from the start. For us it was much easier to focus overseas. And that is what we did and still do." WideCut's products are sold either directly from the factory in Korea, if we don't have a distributor on that market, or through their current 30 distributors around the world.

Han has been working intensively with diamond wire development and production for so long he is a specialist in this field. "In the beginning this industry knew very little about the potential of diamond wires, how they should be designed and how to produced them. There were also no specialised production machinery before," says Han.

The deeper Han delved in to development of diamond wire the clearer it became that this was the business for him. Cutting with diamond wire is often the most efficient and environmentally friendly method. But the design of the wire is important in order not to cause it to



break. A broken wire could easily be a deadly weapon for the operator or the surroundings. "A bead on the loose is like a bullet and can penetrate almost anything. It has a speed of 22m/s," said Han.

As there were almost no suppliers of machinery for making diamond wire he decided to start developing his own fully automatic production machinery. Today almost all machinery in the factory is WideCut and designed by Han. For instance WideCut has 12 different bead process machines, depending on what type of bead is to be produced. The beads has a very high concentration of diamonds. A chain is as strong as its weakest point and it is the same with a diamond wire. If the diamond bead starts spinning the risk is high that beads start flying around if the wire brakes. That is why all beads are pre-pressed on the wire at WideCut. On a 50m long wire there are about 2000 beads.

The rubber that holds the beads on the wire is a key factor for WideCut. The rubber does not only prevent the wire from breaking, it also holds the beads and springs in place in case of breakage. The type and composition of the rubber is special and how it has been adapted is the secret of its success. WideCut calls it 'Black Rubber' and it is developed in close co-operation with a local rubber supplier. But also each diamond bead and spring is checked thoroughly at WideCut before an automatised machine attaches the components on to the wire. "This is one of many secrets that we cherish deeply. Each of our production methods and the custom made machinery are patented and we are very careful with letting outsiders enter our factory," says Han.

WideCut currently manufactures 60,000m of wire per year. About 80% of the production is sintered diamond wire used mainly for cutting reinforced concrete. The remainder is electroplated wire used for cutting metal. The manufacturing process for electroplated wire is totally different from sinter wire and it has a very high concentration of diamond. Han believes that the market for electroplated wire will increase due to the ongoing dismantling of the nuclear industry around the world. In the process industry the use of diamond wires as a demolition method is very



Rigorous quality test are made in the WideCut test laboratory continuously.

common and will grow even more in the near future.

Thanks to the fully automated manufacturing process wire can be delivered extremely fast from WideCut. They always has about 4,000m in stock, and enough to cover the demand for one month. Before delivery all wires are pre-sharpened automatically in two stages. There is even machinery, developed by WideCut, that blows away the dust from the wire after the sharpening. Some years ago any diamond wire producer pre-sharpened their products. About 70% of the production from WideCut is standard wire and the remainder is for special application.

To stay on top of product development and production efficiency is a necessity as competition is fierce. Han says that in three years the price of diamond wire has decreased 30% and at the same time WideCut has increased the performance of their products by 30%. But Han with his family and company has found the formula to stay at the cutting edge of the competition providing his clients with first class diamond wires.

www.widecut.com



Brazing of the diamond beads.



Every single bead are checked for failures before they are used.



HBR Testing.



The product qualities are numours.