TUNGSTEN CARBIDE TIPPED WIDE BANDSAWS

TCT FORESTILL

TUNGSTENE CARBIDE TIPS

SAWTECH 2007

26-28 NOVEMBER 2007, ROTORUA, NEW ZEALAND
FOREZI ENNE MFLS

French company

Founded in 1977 by: Christian SENEGAS

Activity: Manufacture of Wood working tools

200 people.

Turn over 2006: 25 000 000 € HT

45% By the Export department
THE DIFFERENT SAWING TECHNOLOGIES FOR WIDE BAND SAW BLADES

SWAGING: This is the most common technique widely used across the world.

STELLITE-TIPPING: widely-used in Europe and in all the other continents.

TUNGSTEN CARBIDE TIpped BAND SAW BLADES:
Technique developed by FOREZIENNE MFLS and marketed since 2003.
WHY DID WE DEVELOP THIS NEW TECHNOLOGY?.

4 major reasons led by our customer’s requests:

- Increase of productivity, of the quality and the sawing speed.

- Easier maintenance of the blades and especially of the band saws with variable pitch.

- To increase significantly the cutting life of the blades in order to reduce the losses of productivity due to the blades replacement.

- Ever insisting demand of our customers to have their bandsaws maintained externally.
TO REACH THESE TARGETS WE HAD 4 ISSUES TO BE WORKED ON

A- A longer cutting life
B- High fatigue resistance (no more cracks)
C- Better cutting performances
D- A blade with low maintenance
A-A LONGER CUTTING LIFE

Research on the tooth

→ To develop an alloy which provides:
  - A high cutting quality
  - High shock resistance similar to existing blades
  - And also easy to braze.

Many tests and developments of tungsten carbide have been made to find the best compromise between these 3 parameters. Our years of experience have enabled us to improve the grade of our tungsten carbide.
B- HIGH RESISTANCE TO FATIGUE.

3 working axis

B1-Research on the tooth profile:

B2-Treatment of the tooth gullet:

B3-Research on the steel.
B- HIGH FATIGUE RESISTANCE.

B-1 Research on the tooth profile

→ Installation of electronic components for accurate measurements of cutting strains and blade fatigue under real working conditions.

Definition of the optimum profile for cutting performance and resistance to fatigue

Minimum effort for a maximum cutting quality
B- HIGH RESISTANCE TO FATIGUE.

B-2 TOOTH GULLET TREATMENT

→ Reduce the risk of cracks to a strict minimum
→ All punching is done by FOREZIENNE with high pressure water jet cutting to minimize the strain on the tooth gullet.

→ Super finishing of the tooth gullet which further reduces risks of cracking

Classic completion
B- HIGH RESISTANCE TO FATIGUE.

B-3 WORKING ON THE SPECIFICATIONS OF STEEL.

We have worked with our steel manufacturer partners on the mechanical specifications of our steel in order to improve the resistance.

Structure at 0.5mm of the extremity of the teeth.
C-BETTER CUTTING PERFORMANCES

To improve sawing performances we are widely using a proportional variable pitch for TCT band saw blades.

The proportional variable pitch enables:
- an increase of the sawing speed.
- a reduction of the vibrations, the noise and a better evacuation of the saw dust.
A variable pitch is specifically studied according to each sawing application.
A tool developed over many years of research and thousands of trials

Comparatif de la zone thermiquement affectée par l'opération de brasage

Distance en mm de l'extrémité de la dent à la zone non affectée

Dureté HV0.5

Our partners
→ Longer cutting time between servicing

→ **40** hours cutting without dismantling the blade for soft and
green woods.

→ **15 to 20** hours for hard woods (tropical wood: Azobe, teak… )
If you saw 40 hours a week and you cut soft woods, this means:

- Taking the blade off the band saw once a week and not once or twice a day
- Sharpening of the blade once a week and not once or twice a day
- 1 blade with optimum cutting performance for the duration of the blades life.
Advantages

- A better cutting quality
- More cubic meters cut every day
- Versatility of the tool
- Minimum maintenance
- No more consumables for maintenance
- Economy of energy
- Reduction of Noise
Better cutting quality
A more economical process
Depending on your application
The hourly cost of the blades is on average

10% less costly
Maintenance
Maintenance

Sharpening:

Only the carbide tip is sharpened on the face and the back.

No need to regrind the profile.

**The bandsaw keeps the same width during its entire life**

Excellent finishing of the tooth gullet at each re-grinding.
Maintenance

Tensioning:

A specific tensioning and straightening process ensures the resistance.

As the width of the blade never varies, the tension always remains at the optimum position.

What is not the case with stellited or swagged blades.
HOW TO USE IT
Weekly maintenance of the sawing equipment (bandsaw machine)

- TCT band saw blades are very easy to use and do not require existing equipment to be changed.

- However, to guarantee performance, we suggest you make specific checks on your bandsaw machine and blades once a week.

- Maintenance of blades is done in FRANCE by FOREZIENNE MFLS.

- In other countries where we have introduced this new technology: Spain, Belgium, Germany, New-Zealand and very soon South America and South Africa, our partners provide the maintenance.
Looking after the bandsaw:

→ Adjustment of guides
→ Cleaning
→ Inspection of chip ejectors
→ Verification of lubrication
After a sawing cycle, ASL INDUSTRIES will look after the servicing

Our partners have been trained and have the necessary equipment to maintain the blades by ensuring:

→ Complete sharpening of the tooth
→ Treatment of tooth gullet
→ Re-tensioning
→ Protective tape, packing…
Already more than 10 000 sites are using FORESTILL TCT bandsaw blades
THANK YOU FOR YOUR KIND ATTENTION

AND

DO NOT HESITATE TO CONTACT US FOR FURTHER INFORMATION