



## Revolutionary - TIGRA's new patented Hinge Bit

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### Main advantage highlights:

1. Tripled life time
2. For much higher machine speeds
3. For a better surface quality

### Application:

The hinge bit is one of the most important tools in the production of furniture. It's mainly used to make drillings for hinges in boards.

### Present product:

Up to now hinge bits are produced complicated: A complex steel body has to be milled and 5 different carbide pieces have to be brazed upon it. After this process the tool has to be ground (sample attached).

### New TIGRA Hinge Bit:

For the first time TIGRA will present its new revolutionary alternative of hinge bits to the presently used product at IWF in Atlanta 2004.

The tool only consists of two parts, a steel shaft and a carbide tool head. The two parts only have to be glued together and then the tool is ready for grinding (sample attached).

Not only the manufacturing of TIGRA's Hinge Bit is much easier. The new system offers decisive advantages concerning its application. Existing hinge bits had to be manufactured of tungsten carbides with high share of cobalt to keep the possibility to braze the carbide parts together. As cobalt reduces the hardness, the tool life was not very long especially in very hard wooden materials like MDF. With TIGRA's Hinge Bit standard or special developed carbides grades like T03SMG for hard wooden materials like MDF or chip-boards can be used which allows more than triple life times of the tools. On the other hand machine stoppages and standstill times will be reduced decisively.

Additionally within the scope of the development the geometries of the tool were tested: in an experiment at the University of Stuttgart, "Universität Stuttgart", it could be demonstrated and detected that the necessary cutting powers for TIGRA's Hinge Bit (feeding power and circumferential force) could be halved which means a longer life time for the tool and higher production speeds.

In combination with the reduced costs it's nearly safe to assume that the conventional hinge bit with diameters of 15 and 35 mm soon will be replaced by the new TIGRA system.

### **Decisive Advantages of TIGRA's Hinge Bit**

- Only one tungsten carbide piece  
The hinge bit is only one piece manually and simply put upon the shaft centrally.
  - Much easier complement
  - Simplification of ordering and storing
- Gluing instead of brazing  
Due to gluing of the carbide head upon the steel shaft the time-consuming brazing process is not necessary anymore which allows the following benefits:
  - No delay
  - No scale
  - No refinishing operation
  - No necessity coating of any carbide bits
  - No thermal weight of the carbide (tension cracks)
  - No expensive brazing devices necessary
- Simple shaft  
In comparison to existing base bodies which have to be milled with extravagant plate seats TIGRA's version exists of one turned part.



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- Choice of the optimum tungsten carbide grade  
According to the application and wooden material the optimized carbide grade can be selected (e.g. T04F or T03SMG for chip-boards and MDF).
- Reduced cutting power  
The feeding power and the circumferential force could be enormously reduced due to decisive improvements in the cutting geometries which allows the conclusion of reduced wear.