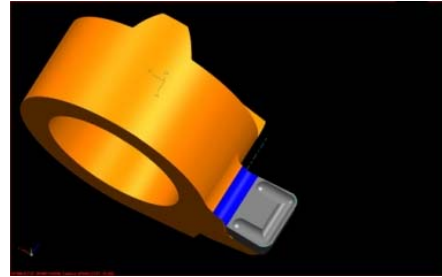


**HORN CUTTING TOOLS LTD**  
**PRESS INFORMATION**  
**TOOLING TECHNOLOGY**



**HORN DEVELOPS LASER-MACHINED CHIPBREAKERS**

Engineers working at Paul Horn GmbH in Germany have developed a technique for profiling chip breaker geometries into polycrystalline diamond (PCD), using multi-axis laser machining. The method has also been applied to carbide cutting inserts.

Currently the process is experimental. However it has demonstrated capability to profile a virtually unlimited range of chip breaking profiles. It offers scope to solve a range of chip breaking problems including those associated with machining very small diameter bores in materials such as aluminium, and to optimize the performance of PCD tooling.

The main obstacles to commercial application of the process are the high cost of the laser profiling equipment, and the lengthy process cycle time. This last is due to the fact that etching has to be carried out using fairly low laser power to maintain a high level of finish.

Nevertheless, the facility provides Horn with a flexible facility for creating prototype chip breaker geometries. And though full commercial exploitation is some way off it could also be applied to produce limited runs of special tooling if the application warranted it.

***Pic caption: CAD model of Horn Mini insert with laser profiled PCD cutting edge***

***Further information is available from:***

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