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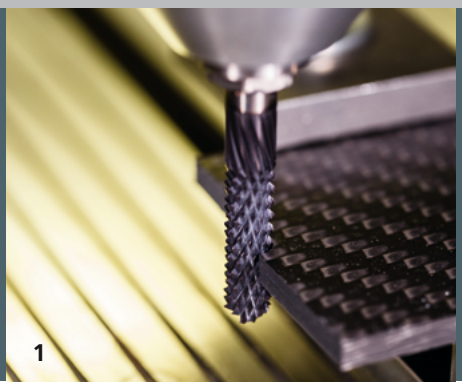
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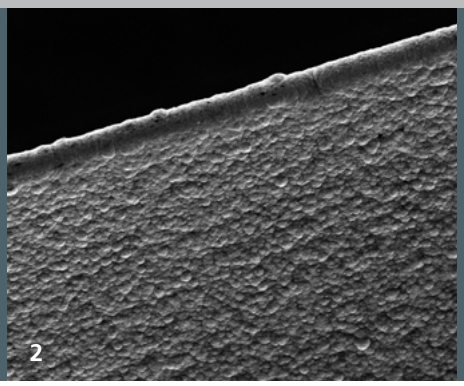
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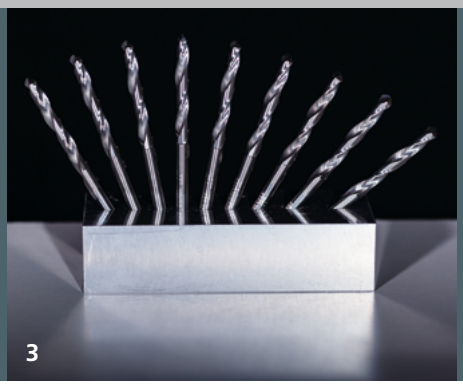
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1 *CFRP milling with an AlTiN coated tool.*
2 *REM image of a CVD diamond coated drill for CFRP machining.*
3 *Drilling tool for GFRP machining.*

CUTTING TOOL COATINGS FOR THE MACHINING OF CFRP AND GFRP

Motivation

In the machining of fiber reinforced materials, such as CFRP and GFRP, tool wear presents a significant challenge. Tool wear leads to reduced tool life as well as to machining defects such as delamination, frays and burrs. In order to reduce tool wear, and thus to decrease machining errors, special multi-functional layer systems can be applied on the tools by chemical vapour deposition (CVD) or physical vapour deposition (PVD). In combination with suitable machining parameters, these coatings achieve improved machining results and prolonged tool life, which leads to significant cost reductions.

Customer Benefits

Through the use of innovative tool coating systems in the machining of fiber reinforced material, tool wear is significantly reduced and simultaneously the machining quality is increased. This leads to longer service life of the tool and thereby reduced tool costs.

Our Services

- Analysis of tool wear using experimental studies
- Evaluation of newly developed coatings in regard to machining quality
- Determination of suitable machining parameters for milling, drilling, turning and sawing
- Selection of optimal tool coatings for the efficient machining of composite materials such as CFRP and GFRP
- Development of special coatings for CFRP machining

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