

Machining

Tackling the Challenges of Machining Composite Materials

Brought To You by Guhring | Jun 01, 2021

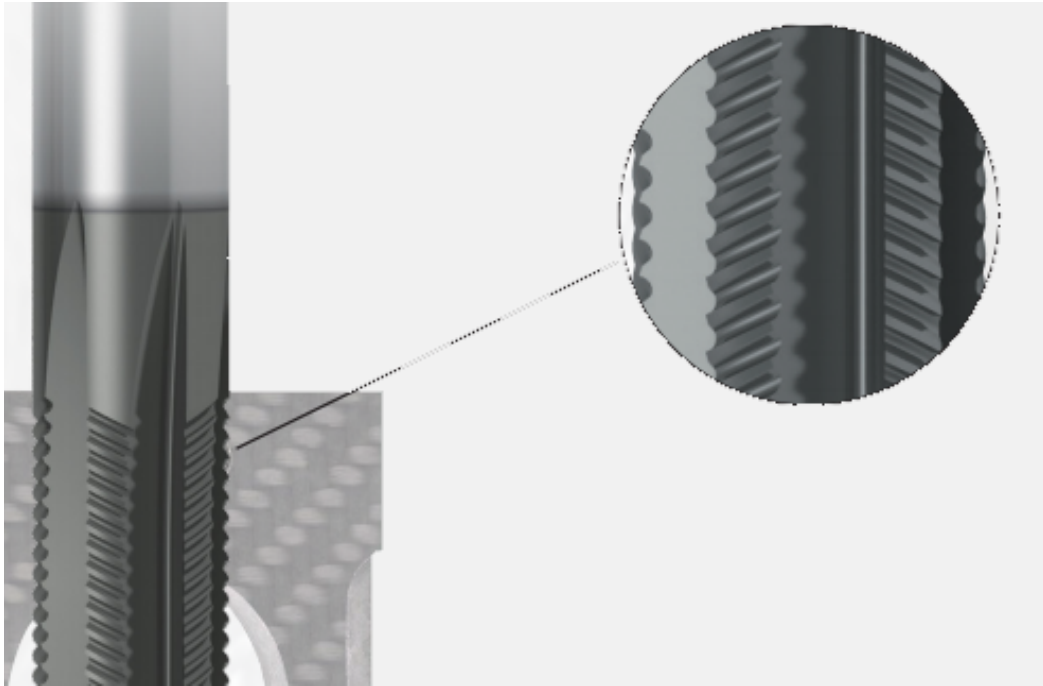
Fiber reinforced plastics (or FRPs) are used in applications where high specific strength and low weight are essential. To machine FRPs and stacks (FRP/metal-layer composite) without component damage, cutting edge quality and wear resistance are of absolute importance.

Challenges With Machining FRPs

- Fraying or splitting of fibers
 - Delamination
 - Component damage through "peel-up" or "push-out"
 - Burr development
 - Thermal damage
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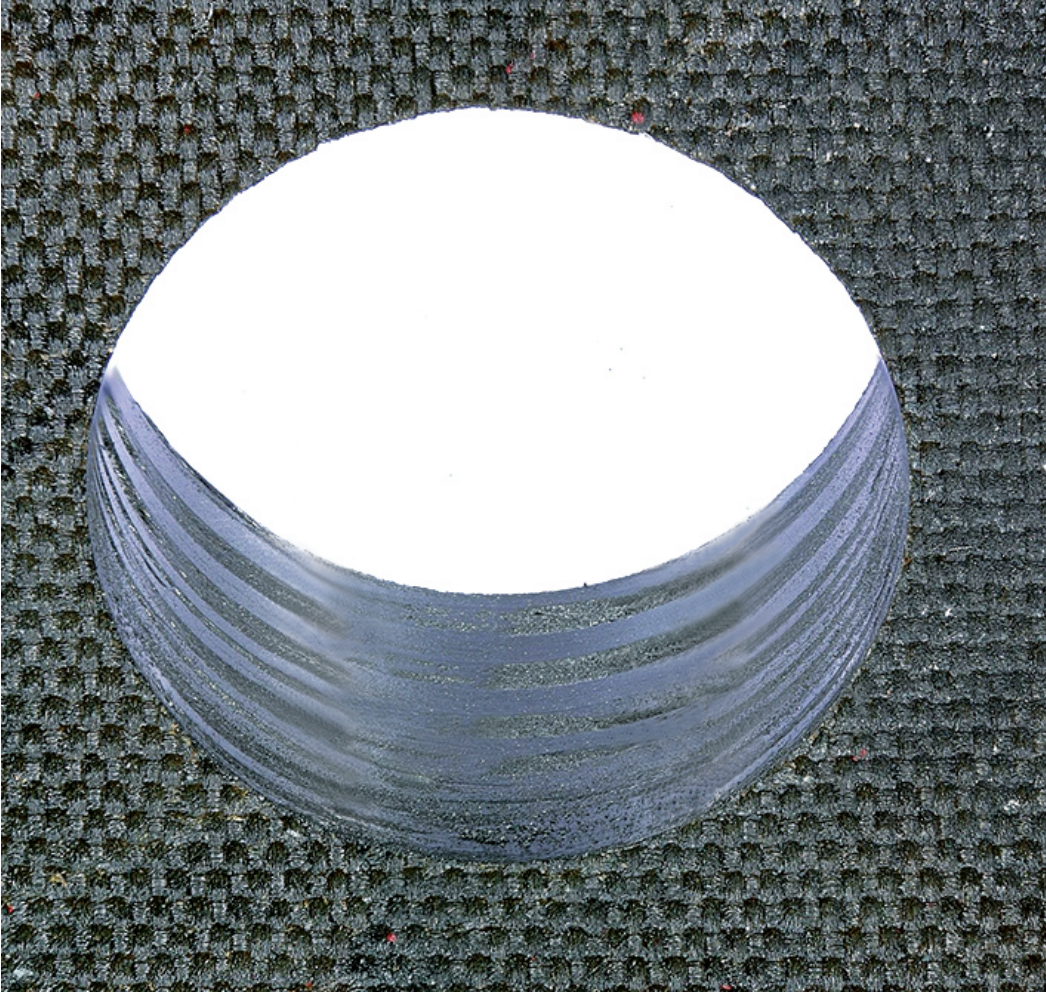
Guhring's FR 100 high-performance milling cutters address the challenges associated with machining FRPs.

Features:



Compression cut

The shearing action of the FR 100 prevents delamination, fiber fraying and thermal damage.



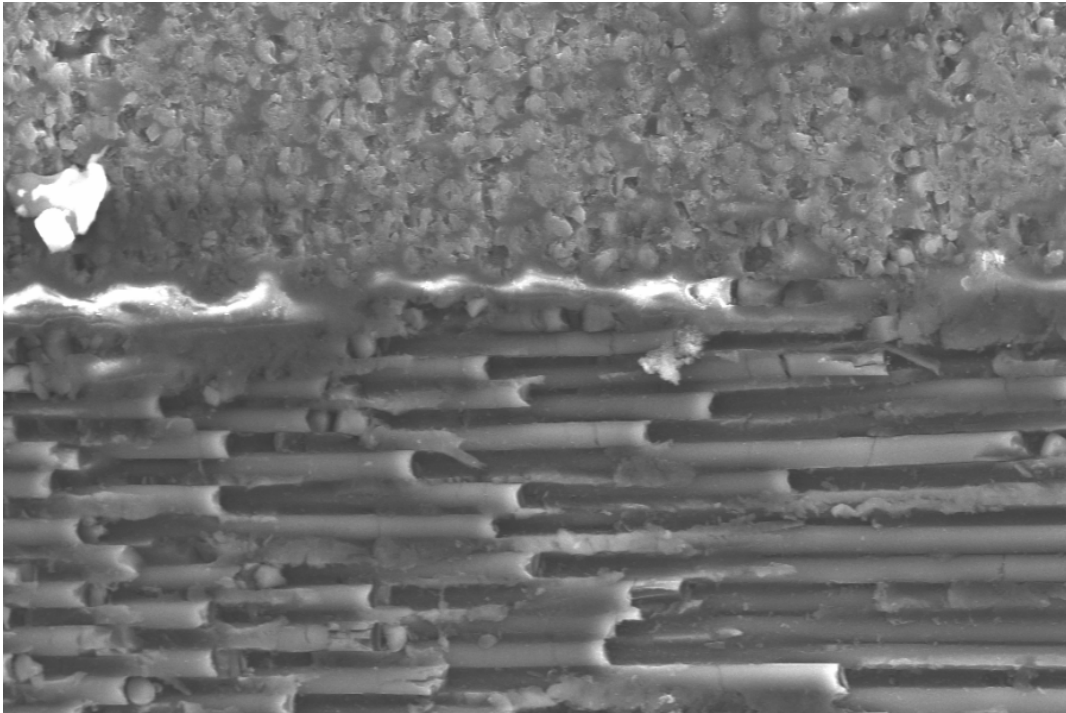
A clean exit

The goal is to avoid delamination or fraying of the FRP fibers. An exit hole with a clean edge proves Guhring's success.



Economic efficiency

The exceptional hardness value of diamond enables this coating to tackle highly abrasive applications. Tool life is extended by the design features and the coating.



Cutting edge matters

Machining results, magnified 500-fold, show the compression geometry paired with a superior cutting edge retains the structure and direction of the fibers in the material. No thermal damage or delamination occurs.

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