

Offset whirl thread cutter

Segments: Automotive and medical equipment

Offset whirl thread cutter for machining deep threads



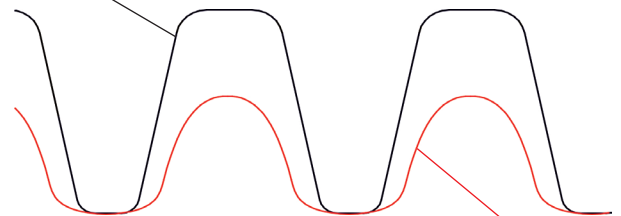
Internal thread whirling is a know and popular method for machining metric ISO threads and for threads with a relatively large opening angle.

For other types of threading operations (e.g. deep trapezoid-shaped) or special threads, internal thread whirling causes problems!

The problem

By milling the thread keeping the tool parallel to the part axis, interferences develop and the shape of the thread is not transferred correctly.

Theoretical profile

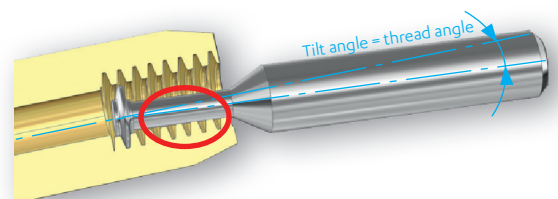
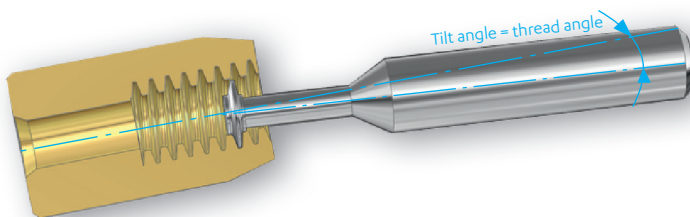


Profile with standard thread cutter

Standard solution

One solution is to tilt the tool in accordance with the helix angle. This solution is effective for short threads, but the spindle must be tilted while interpolating with the whirling cycle.

If the thread is deep, the tool touches the work-piece.



New solution!

With a specific modification to the shape of the thread cutter, the work-piece can be machined while the tool is kept parallel to the work-piece axis, which means that the correct shape is ensured.

