EMUGE FRANKEN

Made in Germany



EMUGE Taptor

Pre-Drilling and Thread Production in One Single Working Step

EMUGE Taptor

GOAL

Time Saving in Internal Thread Production

In order to save machine capacity, main and non-productive times in internal thread production in cast aluminium components are to be reduced.

IDEA

Saving of Working Steps

In conventional internal thread production, the machining is carried out in 2 steps. Step 1 is pre-drilling. Step 2 is machining the threads using either taps, cold-forming taps or thread milling cutters. The necessary tool change results in long process times. To shorten these process times some working steps can be saved.

SOLUTION

Innovative Manufacturing Technology

The innovative EMUGE Taptor® process combines pre-drilling and thread production in one single working step. This eliminates the need to change tools.



Zero position



Drill-threading



Transition undercut

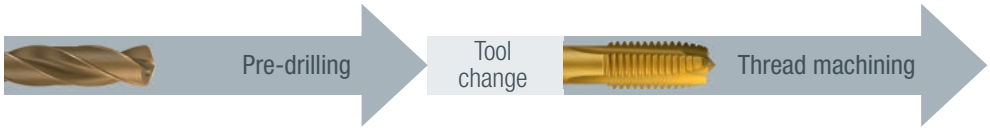
RESULT

EMUGE Taptor® – Time Advantage

The time advantage results from several factors:

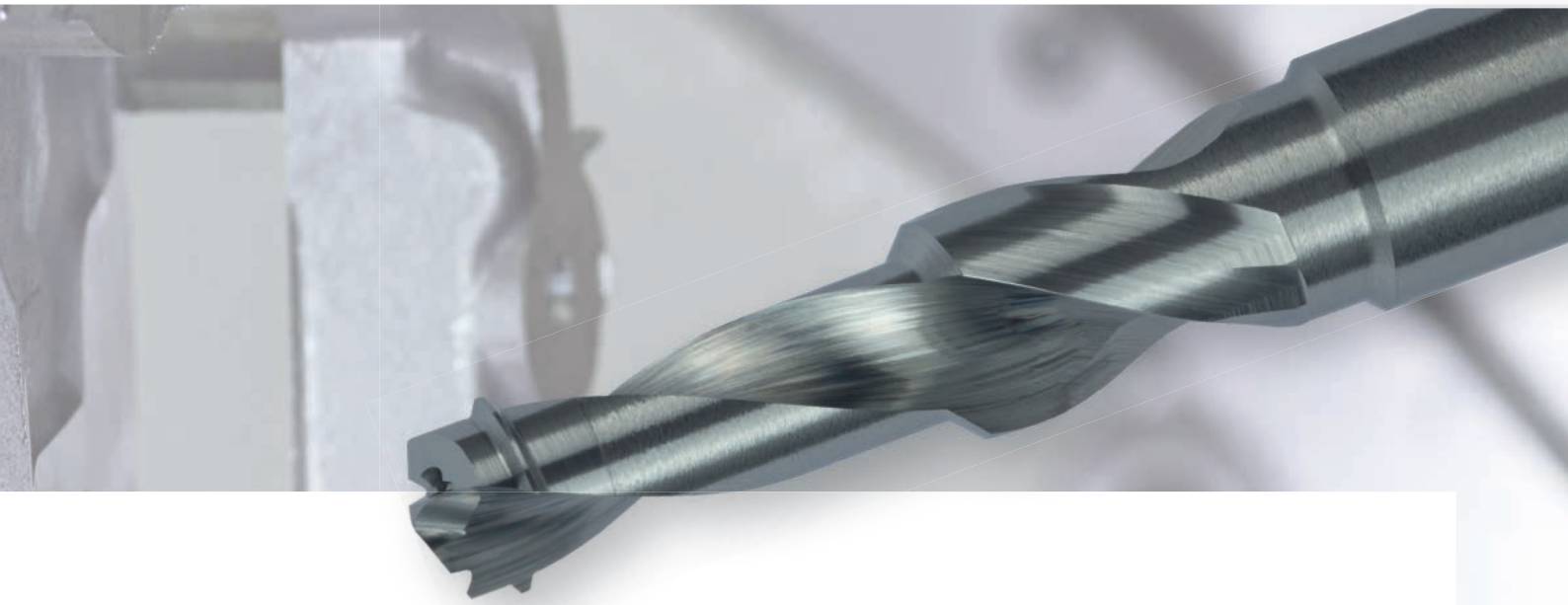
1. Elimination of pre-drilling including traverse paths and tool change
2. Reduction of the main time by using the Speedsynchro Taptor®.

In a sample application (machining of a cylinder head cover side in the dimension M6, 12 mm deep), the time saving is about 2 seconds per thread.





The thread produced corresponds to the specifications of DIN ISO 965 (Metric ISO thread). An undercut is created at the bottom of the thread, the length of which corresponds to the lead-in chamfer of a conventional threading tool. The screw can be screwed into this undercut.





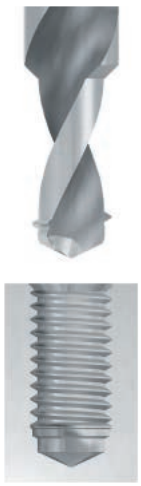
Reverse point



Transition thread



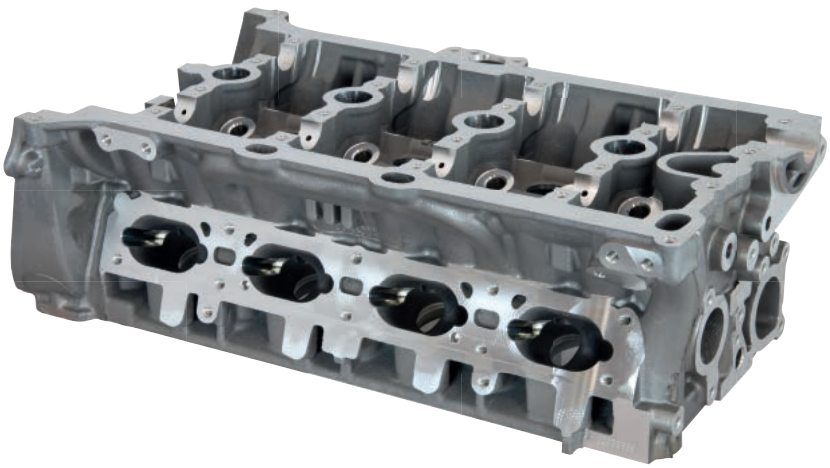
Exiting thread



Zero position

EMUGE Taptor® – Process Properties

The process uses a patent-protected technology of Audi AG.



Thread strength:
First tests show a strength at least equivalent to that of conventional threads.

Thread testing:
The test is carried out with standard thread plug gauges according to DIN ISO 1502.

Hole shapes:
Suitable for both blind and through hole machining.

Tool holder:
Der Taptor® is mounted in the Speedsynchro Taptor®.

Machine requirements:
The machine must be suitable for synchronous thread machining.

EMUGE Taptor

Series Production

Cooperation between EMUGE-FRANKEN and Audi

EMUGE-FRANKEN and Audi have joined forces to integrate the Taptor® thread technology into the series production of cast aluminium components.



©Image source: : Audi AG

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