EMUGE Punch Tap – FAQ Questions and answers regarding the Punch Tap technology

What does the name Punch Tap mean?

- The name Punch Tap is derived from the punch in professional boxing and characterizes the sudden plunge of the tool and the fast retraction.

How does a Punch Tap work?

- It is a new production technology for internal threads which is also known as helical thread-forming.
- When the tool plunges into the pre-drilled tap-hole, two helical grooves opposite each other are machined. By means of a 180° rotation the thread is cold-formed throughout the entire depth. The tool is now retracted from the thread through the two helical grooves.
- Additional information concerning the functionality can be found on www.punchtap.com, in the product video or in the product brochure.

Who invented the new production technology and who developed the Punch TAP?

- AUDI and EMUGE are the inventors and developers of the Punch Tap technology

Is the Punch Tap available only from EMUGE?

- Yes, only from EMUGE, both the process and the tool are patented.

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What are the advantages of the Punch Tap?

- Time savings which can result in cost reductions.
- Energy savings
- Only one storage position is needed in the tool magazine
- The thread flank is produced in a cold-forming process

How does the time advantage of the Punch Tap compare to a cold-foming tap in a synchronous machining cycle?

- The time advantage in a synchronous cycle is up to 75%

To which customers will the Punch Tap be of interest?

- The Punch Tap will be of interest particularly to series manufacturers.

Which materials can a Punch Tap be used for?

- In particular aluminum cast or wrought alloys and similar light metals

On which machines can a Punch Tap be used?

- On CNC machines with a Sync control system with available Punch Tap program

Is the Punch Tap already been used in series production?

- The mass production switchover with M6-6H at the AUDI plant in Györ was in 2016

What material is the Punch Tap made from?

- It is made from a special HSSE-PM alloy with optimised wear resistance and toughness.

Can a Punch Tap be reground?

- No

Which design does the Punch Tap have?

- Shank in h6 with laterally inclined clamping flat
- Dimensions according to EMUGE-standard depending on application

Which type of tool holder does the Punch Tap require?

- A special EMUGE Punch Tap holder is used
- Due to the process, a rigid clamping if required.
- In addition, the jerky movements and stress on tension and compression which affect torque, must be eliminated
- Conventional clamping systems are not suitable for these types of stress.

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What type of holes can the Punch Tap be used for?

- There is one basic tool for blind hole and through-hole

Does the depth of thread change compared to conventionally produced threads?

- In principle, there is no change
- But in blind holes a thread run-out of two to three threads is required.

What is the suitable preparatory diameter respectively tolerance?

- Analogous to conventional thread forming
- It might be necessary to adjust preparatory diameter and tolerance.

How can you gauge the produced thread?

- With conventional smooth tap hole gauges and Go/No-Go- thread plug gauges.
- The minor diameter with a smooth Go/No-Go plug gauge with tolerance -7H
- The thread is gauged with Go/No-Go thread plug gauge with tolerance -6H

For further Information please contact our EMUGE-FRANKEN sales organisation

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