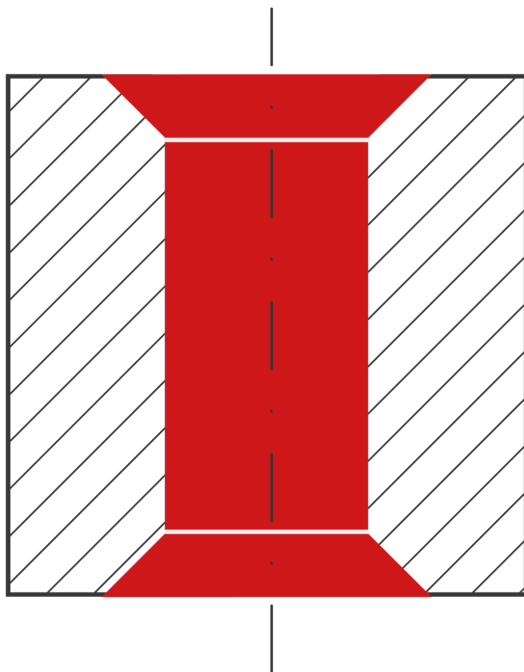




## Brake disc

Multiple work steps in a single tool for maximum cost efficiency.



## Customer application

The automotive industry requires a vast quantity of brake discs. Therefore, the production process must be 100% optimised. In this application, two distinct types of bores must be drilled and completed in the shortest possible of time.



## Solution

### Bore 1

Core bore is drilled in a single pass with aVEX drill combination tool and chamfered both front and back ( $\varnothing 8.5 \text{ mm} \times 90^\circ$ ).



### Bore 2

In a single pass, this bore is drilled, then countersunk forward ( $\varnothing 17.2 \text{ mm} \times 90^\circ$ ), and back chamfered ( $\varnothing 0.5 \text{ mm} \times 45^\circ$ ). It is made with a special VEX drill and countersink combination tool.



## Customer benefit

The integration of multiple machining operations in a single tool, combined with proven process capability, ensures the best possible cost efficiency.

- Integration of multiple machining operations in a single tool
- Elimination of tool changes
- Best possible cost efficiency
- Highest process reliability
- Elimination of manual deburring
- **Substantial time and cost savings**