

HEULE CASE STUDY

Precision Machining Application VEX-P



Combining Tools to Machine a Mounting Bore

Challenge

A manufacturer in the automotive industry was producing about 12 million aluminium wheels for passenger vehicles per year. The customer wanted a solution to produce the mounting bore for the wheels cost-effectively in one operation without having to turn the workpiece.

Application details:

- Through bore: Ø14.0mm
- Counterbore forward: Ø36.0 mm
- 60° Sinking forward on the bore: Ø14.0 mm
- Back chamfer: 1.0 mm x 45°
- Material: aluminium

Solution:

The solution from HEULE is a VEX-P combined drill and countersink tool which has been specially adapted for the customer. In one pass and without any further tool change the four form elements can be machined.

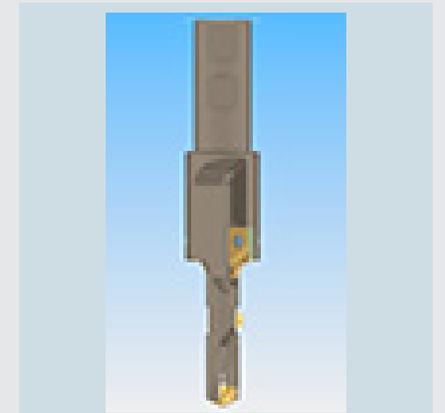
Machining parameters:

Drill operation:

Speed 3500 rev/min, cutting speed v_c 155 m/Min, working feed 0.3 mm/rev

Sinking forward / chamfering backward:

Speed 2800 rev/min, cutting speed v_c 140 m/min, working feed 0.1 - 0.15 mm/rev



Results:

This customer combined four tools into one tool with no required turning of the work piece. Also eliminated was the maintenance effort and downtime for re-adjusting and repairing tools. The customer achieved the desired savings of time and money.