

## Spinworx® - AND YET IT MOVES

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Hermesmeyer & Greweling from the town of Marienfeld near Gütersloh has a lot of professional knowing in milling operations. Founded in 1982 from Hubert Hermesmeyer and Herman Greweling, the company is well known for its expertise in milling strategies for mechanical and plant engineering, mould- and tool-making as well as machine building. High-performance software and an integrated cross-linked machinery of NC- and highspeed machines of well-known manufacturers guarantee flexibility and prime quality without compromises.

Also, today's managing directors Klaus Hermesmeyer and Klaus Greweling are not compromising in selecting their tooling. As one of the first, they were trying our new system SPINWORX®. In substantial tests, this new Pokolm-innovation with automatically revolving inserts, had to prove its advantages and abilities.

Klaus Greweling: "at first, the idea of an insert revolving around a threaded stud-bolt support created a lot of scepticism. The tests, however, resulted in proving, that this technology is operating efficiently and is very beneficial in certain materials".

### Job Title:

This test is related to an order of the automotive industry, where precision, accuracy and the time factor are most important. The initial component was a 1.7131-steel blank. The requirement has been: milling a trimming tool for the side-wall of a tank cap-insert. The final finishing operation should take place after assembling this item to the moulding tool. Target was, to machine this blank completely to a finished part in only very few machining hours, preferably unattended.

For the test-run, our senior partner Franz-Josef Pokolm took a SPINWORX® milling cutter body 6 52 310//DR, 52 mm diam. r6, with 12 mm diam. inserts. The milling machine available was a DMU 200P with an output of 42 KW and a tool-holder system of SK 50. The demanded two-sided-milling operation required a reset of the machine. The blank was

machined from top to bottom and from outside to inside at a time.

Machine: Deckel Maho DMU 200 P

Material: 1.7131

Milling the blank-geometry was the main load of this job. This milling process took 114 minutes with a feed rate of 4500 mm/min and a cutting depth of 1.25 mm. For the bottom part, the machine needed further 58 minutes. The milling machine operator Karl-Wilhelm Dangberg was very satisfied with this result:

“The finished part could be integrated immediately into the trimming tool. Certainly, the time-saving through avoiding re-locating of inserts is a substantial argument for SPINWORX®.

But, more significant to me as a machine operator is the unbelievable higher process reliability”.

Example from practice:

component: tank cap-insert

material: 1.7131

arbor: 100 22 710

(22 mm diam., SK 50)

cutter body: 6 52 310/7 DR

(52 mm diam, r6)

insert: 03 12 8A0 DR, (12mm)

overhang: 155 mm

coolant: air through spindle

vc (speed): 250 m/min

vf (feed rate): 4.500 mm/min

S (revolutions): 1.530 1/min

fz (feed per tooth): 0.49 mm

ap (depth of cut): 1.25 mm

ae (width of cut): 38 mm

machining time: 1. side 114 min.; 2. side 58 min.

Result:

Franz-Josef Pokolm has carefully examined the SPINWORX®-inserts. The result: “After a total machining time of 172 minutes, there was practically no wear at all, even with 30 times magnification. You could easily continue to use these inserts for further operations”.

Conclusion:

With the tool system SPINWORX® from Pokolm, extremely short machining times and at the same time, minimized tool costs can be achieved.

Further advantages are: - optimized process reliability, - unattended machining and, apart from the reset of the machine for top- and bottom-machining no downtimes.

Result: extensive reduced component costs and a distinct time saving.

The company Pokolm Frästechnik GmbH & Co.KG has its market place since 15 years and belongs to the leading manufacturers of special tooling for mould- and die-making worldwide. The company's floor space is more than 2500 m<sup>2</sup> (approx. 25000 sq.ft.) and it has approx. 64 employees. All operation cycles –turning, milling and grinding- are taking place on ultra-modern machinery in air-conditioned production facilities for best possible precision.

Pokolm is dealing worldwide. Domestic sales is realized by well educated applications engineers, having extended knowledge in milling, machining- and control-systems as well as CAD/CAM programming. Pokolm are marketing their products in 39 countries via sales representatives, beginning in Eastern-Europe, direction Western-Asia up to China and Japan, down to Australia. And in the western hemisphere starting in the European Community, Great Britain, USA, Canada and South America. Substantial customers all over the world are supplied with Pokolm-premium-products.

Pokolm

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