Test report no: 017-15

VAN HOORN CARBIDE

Machine	Mikron VCP 600
Spindle type	Step-Tec
Max RPM	20.000
Power Kw	18 KW
Cutter holder	Collet chuck

Workpiece material	1,0037 (St37)
Hardness	

Application			
Side milling	x	Up-milling	
Slotting		Down-milling	
Profiling	x	Ramping	
Plunging		Circular	

Sketch

		Test 1	Test 2
Cutter supplier		van Hoorn Carbide	van Hoorn Carbide
Cutter description		VHTS 5 100 072 10 03	VHTF 4 100 078 10 03 200
Cutter diameter eff.	Ød mm	10	10
Number of teeth	z	5	4
Carbide grade			
Cutting conditions			
Cutting speed	V_c m/min	247	200
Revolution	n rpm	7.856	6.366
Feed per tooth	f_z mm	0,109	0,130
Table feed	V_f mm/min	4.290	3.310
Depth of cut	a_p mm	25	8
Width of cut	a_e mm	1,5	1
Length of cut	L mm		
Chip removal rate	Q cm^3/min	160,88	26,48
Chip thickness	Hm mm	0,04222	0,04111
Coolant type		dry / air / minimum lub. / emulsion	dry / air / minimum lub. / emulsion
Coolant pressure	Bar	Internal External	Internal External
Cutting time / comp	$T_{comp.}$ min		
Toollife	T_{total} min		
Power consumption	P Kw		
Edge wear	V_b mm		
Successful		Yes / Average / No	Yes / Average / No

Remarks

High chip removal rates with trochoidal strategy in combination with our VHTS!
Excellent chipflow with minimal lubrication!

(semi) finishing with our VHTF 4, high feedrates because of the 4 flute torus endmill!