Test report no: 001-16

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	RVS 316Ti (1.4571)
Hardness	

Application			
Side milling	x	Conventional	
Slotting		Climb - Milling	
Profiling		Ramping	
Plunging		Circular	

Sketch

		High Cutting Speed	Conventional Cutting Speed
Cutter supplier		**van Hoorn Carbide**	**van Hoorn Carbide**
Cutter description		VHVTR 4 100 070 10 03 050	VHVTR 4 100 070 10 03 050
Cutter diameter eff.	Ød [mm]	10	10
Number of teeth	z	4	4
Carbide grade			
Cutting conditions			
Cutting speed	V_c [m/min]	400	75
Revolution	n [rpm]	12.732	2.387
Feed per tooth	f_z [mm]	0,065	0,050
Table feed	V_f [mm/min]	3.310	477
Depth of cut	a_p [mm]	15	10
Width of cut	a_e [mm]	2	4
Length of cut	L [mm]	250	250
Chip removal rate	Q [cm^3/min]	99,30	19,08
Chip thickness	Hm [mm]	0,02907	0,03160
Coolant type		**dry** / air / minimum lub. / emulsion	dry / air / minimum lub. / emulsion
Coolant pressure	P [Bar]	Internal External	Internal External
Cutting time / comp	$T_{comp.}$ [min]		
Toollife	T_{total} [mtr]	50	250
Power consumption	P [Kw]		
Edge wear	V_b [mm]		
Successful		Yes / Average / No	Yes / Average / No

Remarks

Dry machining!

400 m/min cutting speed (Vc)

More than 5 times higher chip removal rate (Q)!