Recommended Milling Conditions for MHRS430

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NS TOOL Co.,

Work material		Carbon Steele S50C				Prehardened Steels NAK・HPM				Hardened Steels SKD61（～52HRC）			
Dia.	Corner radius	Spindle speed	Feed	Depth of Cut		Spindle speed	Feed	Depth of Cut		Spindle speed	Feed	Depth of Cut	
		min^{-1}		Ad	Rd	min^{-1}		Ad	Rd	min^{-1}		Ad	Rd
6	0.3	4'200	5'000	0.18	2.7	3'500	2'800	0.18	2.1	3'000	2'000	0.12	2.1
	0.5			0.2				0.2				0.13	
	1			0.25				0.25				0.16	
	1.5			0.3				0.3				0.2	
8	0.5	3'100	5'000	0.2	3.5	2'600	2'800	0.2	2.8	2'000	2'000	0.13	2.8
	1			0.23				0.23				0.16	
	1.5			0.28				0.28				0.2	
	2			0.34				0.34				0.23	
10	0.5	2'500	4'500	0.22	4.5	2'100	2'500	0.22	3.5	1'600	1'800	0.15	3.5
	1			0.25				0.25				0.16	
	1.5			0.3				0.3				0.2	
	2			0.37				0.37				0.25	
12	1	2'100	4'000	0.24	5	1'700	2'200	0.24	4.2	1'300	1'600	0.16	4.2
	1.5			0.27				0.27				0.18	
	2			0.33				0.33				0.22	
	3			0.4				0.4				0.27	

Remarks)

1) Down cut milling is recommended.

2) Adjust milling conditions according to rigidity of spindle.

3) Use oil mist or air blow for rough/semi-finish and oil mist for finish.

4) Choose helical or ramping interpolation with reduced feed rate for axial infeed.

5) Tool overhang must be as small as possible.

6) Consider tool length compensation according to growth of spindle.

7) Reduce spindle speed when chattering.

8) For the slot milling, both depth of cut and feed should be reduced to half of the recommended milling conditions.

9) Reciprocating cutting is recommended.