Cutting Data - TXP90AF Axial Feed Mills

CUTTING DATA FOR TXP90AF						Coated					
ISO 513	MILLING CUTTER / MATERIAL					TN25M			TN7535/TN450		
P	Cutter	Max. a_p	Carbide Insert			Feed fz inches per tooth					
	End Mill	.400	222.79.501			.004	**.007**	.012	.004	**.007**	.012
	Face Mill	.400	222.79.501			.004	**.008**	.014	.004	**.008**	.014
	Work Material		Condition	Hardness HB	Mat. Gr.	Cutting Speeds in SFPM					
	Carbon steel,	< 0.25% C	annealed	125	1	950	**850**	750	750	**700**	650
	Unalloyed steel,	≥ 0.25% C	annealed	190	2	850	**750**	650	725	**650**	600
	cast steel and free	< 0.55% C	heat-treated	250	3	750	**650**	550	700	**550**	450
	cutting steel	≥ 0.55% C	annealed	220	4	800	**700**	600	700	**600**	500
			heat-treated	300	5	650	**550**	450	600	**450**	350
	Low alloy steel		annealed	200	6	750	**650**	550	700	**550**	450
	and cast steel		heat-treated	275	7	650	**550**	450	600	**450**	350
			heat-treated	300	8	600	**500**	400	550	**400**	300
			heat-treated	350	9	550	**450**	350	500	**350**	250
	High alloy steel,		annealed	200	10	750	**650**	550	700	**550**	450
	cast steel & tool steel		heat-treated	325	11	550	**450**	350	500	**350**	250
M	Cutter	Max. a_p	Carbide Insert			Feed fz inches per tooth[h]					
	End Mill	.400	222.79.501			.004	**.006**	.010	.004	**.006**	.010
	Face Mill	.400	222.79.501			.004	**.008**	.012	.004	**.008**	.012
	Work Material		Condition	Hardness HB	Mat. Gr.	Cutting Speeds in SFPM					
	400 series Stainless & cast steel		ferrit./mart.	200	12	600	**500**	400	550	**450**	350
			martensitic	240	13	550	**450**	350	500	**350**	250
	300 series Stainless & cast steel		austenitic	180	14	650	**550**	450	550	**450**	350

Scallop Height (h)					
Stepover (s)	Cutter Diameter (d)				
	1.50"	2.00"	2.50"	3.00"	4.00"
.100"	.002	.001	.001	.001	.001
.200"	.007	.005	.004	.003	.003
.300"	.015	.011	.009	.008	.006
.400"	.027	.020	.016	.013	.010
.500"	.043	.032	.025	.021	.016
.600"	.063	.046	.037	.030	.023
.700"	.087	.063	.050	.041	.031
.800"	.116	.083	.066	.054	.040
.900"	.150	.107	.084	.069	.051
1.000"	.191	.134	.104	.086	.064
1.250"	.335	.219	.167	.136	.100
1.500"		.339	.250	.201	.146
1.750"			.357	.282	.202
2.000"			.500	.382	.268
2.250"				.508	.346
2.500"					.439

Scallop Height Formula

$$h = \frac{d}{2} - \sqrt{\left(\frac{d}{2}\right)^2 - \left(\frac{s}{2}\right)^2}$$

Definitions

h = Scallop height
d = Cutter diameter
s = Stepover

Axial Feed Application