

G0mill PRO APPLICATION DATA



G0mill PRO - Ball Nose



G0mill PRO - Square End

Material Group										Recommended Feed per Tooth (Fz=mm/th) is for Side Milling (A). For Slotting (B) Reduce Fz by 20%													
		Side Milling		Slotting		KCU20 Cutting Speed Vc m/min						D1 - Diameter											
												ap	ae	ap	Min	Max		mm	2.0	3.0	4.0	5.0	6.0
P	P0	Ap1Max	0.4xD	1xD	150	200		Fz	0.014	0.021	0.028	0.036	0.044	0.060	0.072	0.083	0.092	0.101	0.108	0.114	0.124		
	P1	Ap1Max	0.4xD	1xD	150	200		Fz	0.014	0.021	0.028	0.036	0.044	0.060	0.072	0.083	0.092	0.101	0.108	0.114	0.124		
	P2	Ap1Max	0.4xD	1xD	140	190		Fz	0.014	0.021	0.028	0.036	0.044	0.060	0.072	0.083	0.092	0.101	0.108	0.114	0.124		
	P3	Ap1Max	0.4xD	1xD	120	160		Fz	0.011	0.017	0.023	0.030	0.036	0.050	0.061	0.070	0.079	0.087	0.095	0.101	0.114		
	P4	Ap1Max	0.4xD	0.75xD	90	150		Fz	0.010	0.016	0.021	0.027	0.033	0.045	0.054	0.062	0.070	0.077	0.083	0.088	0.098		
	P5	Ap1Max	0.4xD	1xD	60	100		Fz	0.009	0.014	0.019	0.024	0.029	0.040	0.048	0.056	0.063	0.070	0.076	0.081	0.091		
M	P6	Ap1Max	0.4xD	0.75xD	50	75		Fz	0.008	0.012	0.016	0.020	0.025	0.034	0.040	0.047	0.052	0.057	0.061	0.065	0.071		
	M1	Ap1Max	0.4xD	1xD	90	115		Fz	0.011	0.017	0.023	0.030	0.036	0.050	0.061	0.070	0.079	0.087	0.095	0.101	0.114		
	M2	Ap1Max	0.4xD	1xD	60	80		Fz	0.009	0.014	0.019	0.024	0.029	0.040	0.048	0.056	0.063	0.070	0.076	0.081	0.091		
K	M3	Ap1Max	0.4xD	1xD	60	70		Fz	0.008	0.012	0.016	0.020	0.025	0.034	0.040	0.047	0.052	0.057	0.061	0.065	0.071		
	K1	Ap1Max	0.4xD	1xD	120	150		Fz	0.014	0.021	0.028	0.036	0.044	0.060	0.072	0.083	0.092	0.101	0.108	0.114	0.124		
	K2	Ap1Max	0.4xD	1xD	110	140		Fz	0.011	0.017	0.023	0.030	0.036	0.050	0.061	0.070	0.079	0.087	0.095	0.101	0.114		
S	K3	Ap1Max	0.4xD	1xD	110	130		Fz	0.009	0.014	0.019	0.024	0.029	0.040	0.048	0.056	0.063	0.070	0.076	0.081	0.091		
	S1	Ap1Max	0.4xD	0.3XD	50	90		Fz	0.011	0.017	0.023	0.030	0.036	0.050	0.061	0.070	0.079	0.087	0.095	0.101	0.114		
	S2	Ap1Max	0.4xD	0.3XD	25	50		Fz	0.006	0.009	0.013	0.016	0.019	0.026	0.032	0.037	0.042	0.046	0.050	0.054	0.061		
	S3	Ap1Max	0.4xD	1xD	25	40		Fz	0.006	0.009	0.013	0.016	0.019	0.026	0.032	0.037	0.042	0.046	0.050	0.054	0.061		
H	S4	Ap1Max	0.4xD	1xD	50	60		Fz	0.007	0.011	0.016	0.021	0.026	0.037	0.045	0.052	0.058	0.064	0.069	0.074	0.084		
	H1	Ap1Max	0.4xD	0.75xD	80	140		Fz	0.010	0.016	0.021	0.027	0.033	0.045	0.054	0.062	0.070	0.077	0.083	0.088	0.098		
	H2	Ap1Max	0.4xD	0.5xD	70	120		Fz	0.008	0.012	0.016	0.020	0.025	0.034	0.040	0.047	0.052	0.057	0.061	0.065	0.071		

NOTE:

Those guidelines may require variations to achieve optimum results.

Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.

Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.

Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on diameters greater than 12mm.

For better surface finish reduce feed per tooth.

Side milling applications - for longest reach (L3) tools, reduce Ae by 30%.

Slot milling applications - for longest reach (L3) tools, reduce Ae by 30%.

Sharp corner tools do not recommended for slotting application.

Looking for speeds and feeds? Visit [kennametalnovo.com](https://www.kennametalnovo.com) to get cutting data specific to your application!



GOmill PRO APPLICATION DATA - Adjustment Factor Table

Adjustment Factor Table for Feed and Speed Calculation.

	Ae/D	2%	4%	5%	8%	10%	12%	20%	30%	40%	50%	100%
Speed Factor	Kv	2.1 - 3.6	1.6 - 3	1.6 - 2.5	1.6	1.4	1.38	1.3	1.2	1.1	1	1
Feed Factor	KFz	3.58	2.56	2.3	1.84	1.67	1.54	1.25	1.09	1.02	1	0.9
phi [°]		16.26	23.07	25.84	32.86	36.87	40.54	53.13	66.42	78.46	90.00	180.00

NOTE:

These calculations are for roughing / semi-finishing cuts when used with the recommended base fz.

For light finishing cuts requiring improved surface quality it is recommended to reduce the base fz approximately 50% and then apply these factors.

For an Ae/D ratio of 5% or less there is range given for speed factor Kv, which allows the user to either be more conservative at the lower value or more aggressive with the higher value.

This can also be considered based on machinability of the material, from difficult to free cutting.

To calculate application specific cutting data, please use above Kv coefficient for adaptation of cutting speed and KFz for feed respectively.

Vc new=Vc*Kv
Fz new=Fz*KFz

Calculation Example:

Application:

D1= 14.0mm

Material Group P5

Ae= 20% of D

Cutting data recommendation:

Vc= 80 m/min

Fz= 0.063 mm/th

Adjustment coefficient:

Kv= 1.30

KFz= 1.25

Final cutting data recommendation:

Vc new= 80 * 1.30 = 104

Fz new= 0.06328 * 1.25 = 0.0791

G0mill PRO APPLICATION DATA - Long



G0mill PRO - Ball Nose



G0mill PRO - Square End

Material Group									Recommended Feed per Tooth (Fz=mm/th) is for Side Milling (A). No Slotting operations recommended.											
									KCU20		D1 - Diameter									
			Side Milling		m/min			mm	2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	18.0	20.0	25.0
ap	ae	Min	Max																	
P	P0	Ap1Max	0.2xD	150	200		Fz	0.014	0.021	0.028	0.036	0.044	0.060	0.072	0.083	0.092	0.108	0.114	0.124	
	P1	Ap1Max	0.2xD	150	200		Fz	0.014	0.021	0.028	0.036	0.044	0.060	0.072	0.083	0.092	0.108	0.114	0.124	
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