

F1AA...WS—WM

Material Group						Feed per Tooth — fz information is for side milling (A). For slotting (B), reduce fz by 20%.									
	Side Milling (A) and Slotting (B)		K600			D1 — Diameter									
	A		B	Cutting Speed — vc m/min											
	ap	ae	ap	min	max	mm	2,0	3,0	4,0	5,0	6,0	8,0	10,0	12,0	
N	1	1,2 x D	0,5 x D	1,0 x D	500	2000	fz	0,014	0,021	0,028	0,035	0,042	0,056	0,070	0,084
	2	1,2 x D	0,5 x D	1,0 x D	500	1500	fz	0,013	0,019	0,025	0,032	0,038	0,050	0,063	0,076
	3	1,2 x D	0,5 x D	1,0 x D	500	1500	fz	0,010	0,015	0,020	0,025	0,029	0,039	0,049	0,059
	4	1,2 x D	0,5 x D	1,0 x D	400	750	fz	0,010	0,015	0,020	0,025	0,029	0,039	0,049	0,059
	5	1,2 x D	0,5 x D	1,0 x D	250	1000	fz	0,013	0,019	0,025	0,032	0,038	0,050	0,063	0,076

F2AA...ADL45...

Material Group						Feed per Tooth — fz information is for side milling (A). For slotting (B), reduce fz by 20%.										
	Side Milling (A) and Slotting (B)		K600			D1 — Diameter										
	A		B	Cutting Speed — vc m/min												
	ap	ae	ap	min	max	mm	4,0	6,0	8,0	10,0	12,0	14,0	16,0	18,0	20,0	
N	1	1,5 x D	0,5 x D	1,0 x D	500	2000	fz	0,036	0,054	0,072	0,090	0,108	0,126	0,144	0,162	0,180
	2	1,5 x D	0,5 x D	1,0 x D	500	1500	fz	0,032	0,049	0,065	0,081	0,097	0,113	0,130	0,146	0,162
	3	1,5 x D	0,5 x D	1,0 x D	500	1500	fz	0,025	0,038	0,050	0,063	0,076	0,088	0,101	0,113	0,126
	4	1,5 x D	0,5 x D	1,0 x D	400	750	fz	0,025	0,038	0,050	0,063	0,076	0,088	0,101	0,113	0,126
	5	1,5 x D	0,5 x D	1,0 x D	250	1000	fz	0,032	0,049	0,065	0,081	0,097	0,113	0,130	0,146	0,162

F2AA...WS-WM-WL-WX

Material Group						Feed per Tooth — fz information is for side milling (A). For slotting (B), reduce fz by 20%.									
	Side Milling (A) and Slotting (B)		K600			D1 — Diameter									
	A		B	Cutting Speed — vc m/min											
	ap	ae	ap	min	max	mm	6,0	8,0	10,0	12,0	16,0	18,0	20,0	25,0	
N	1	1,5 x D	0,5 x D	1,0 x D	500	2000	fz	0,054	0,072	0,090	0,108	0,144	0,162	0,180	0,225
	2	1,5 x D	0,5 x D	1,0 x D	500	1500	fz	0,049	0,065	0,081	0,097	0,130	0,146	0,162	0,203
	3	1,5 x D	0,5 x D	1,0 x D	500	1500	fz	0,038	0,050	0,063	0,076	0,101	0,113	0,126	0,158
	4	1,5 x D	0,5 x D	1,0 x D	400	750	fz	0,038	0,050	0,063	0,076	0,101	0,113	0,126	0,158
	5	1,5 x D	0,5 x D	1,0 x D	250	1000	fz	0,049	0,065	0,081	0,097	0,130	0,146	0,162	0,203

F3AA...WS-WM-WL-WX

Material Group						Feed per Tooth — fz information is for side milling (A). For slotting (B), reduce fz by 20%.									
	Side Milling (A) and Slotting (B)		K600			D1 — Diameter									
	A		B	Cutting Speed — vc m/min											
	ap	ae	ap	min	max	mm	3,0	4,0	6,0	8,0	10,0	12,0	16,0	20,0	
N	1	1,5 x D	0,5 x D	1,0 x D	500	2000	fz	0,027	0,036	0,054	0,072	0,090	0,108	0,144	0,180
	2	1,5 x D	0,5 x D	1,0 x D	500	1500	fz	0,024	0,032	0,049	0,065	0,081	0,097	0,130	0,162
	3	1,5 x D	0,5 x D	1,0 x D	500	1500	fz	0,019	0,025	0,038	0,050	0,063	0,076	0,101	0,126
	4	1,5 x D	0,5 x D	1,0 x D	400	750	fz	0,019	0,025	0,038	0,050	0,063	0,076	0,101	0,126
	5	1,5 x D	0,5 x D	1,0 x D	250	1000	fz	0,024	0,032	0,049	0,065	0,081	0,097	0,130	0,162

NOTE: Those guidelines may require variations to achieve optimum results.

Above parameters are based on ideal conditions. For smaller taper machining centres, please adjust parameters accordingly on >12mm diameter.

For cutting aluminium with high silicon, TiCN coating is recommended.

Ap for spindle with ceramic bearings multiply by 0,5.

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%.

■ F3AA...WS-WM-WL-WX • Extended Neck

Material Group																
	Side Milling (A) and Slotting (B)			K600		Feed per Tooth – fz information is for side milling (A). For slotting (B), reduce fz by 20%.										
	A		B	Cutting Speed – vc m/min		D1 – Diameter										
	ap	ae	ap	min	max	mm	6,0	8,0	10,0	12,0	16,0	18,0	20,0	25,0		
N	1	1,5 x D	0,5 x D	1,0 x D	500	2000	fz	0,054	0,072	0,090	0,108	0,144	0,162	0,180	0,225	
	2	1,5 x D	0,5 x D	1,0 x D	500	1500	fz	0,049	0,065	0,081	0,097	0,130	0,146	0,162	0,203	
	3	1,5 x D	0,5 x D	1,0 x D	500	1500	fz	0,038	0,050	0,063	0,076	0,101	0,113	0,126	0,158	
	4	1,5 x D	0,5 x D	1,0 x D	400	750	fz	0,038	0,050	0,063	0,076	0,101	0,113	0,126	0,158	
	5	1,5 x D	0,5 x D	1,0 x D	250	1000	fz	0,049	0,065	0,081	0,097	0,130	0,146	0,162	0,203	

■ F3BA...BWS/M/L/X40...

Material Group																
	Side Milling (A) and Slotting (B)			K600		Feed per Tooth – fz information is for side milling (A). For slotting (B), reduce fz by 20%.										
	A		B	Cutting Speed – vc m/min		D1 – Diameter										
	ap	ae	ap	min	max	mm	6,0	8,0	10,0	12,0	16,0	18,0	20,0	25,0		
N	1	1,5 x D	0,5 x D	1,0 x D	500	2000	fz	0,072	0,096	0,120	0,144	0,192	0,216	0,240	0,300	
	2	1,5 x D	0,5 x D	1,0 x D	500	1500	fz	0,065	0,086	0,108	0,130	0,173	0,194	0,216	0,270	
	3	1,5 x D	0,5 x D	1,0 x D	500	1500	fz	0,050	0,067	0,084	0,101	0,134	0,151	0,168	0,210	
	4	1,5 x D	0,5 x D	1,0 x D	400	750	fz	0,050	0,067	0,084	0,101	0,134	0,151	0,168	0,210	
	5	1,5 x D	0,5 x D	1,0 x D	250	1000	fz	0,065	0,086	0,108	0,130	0,173	0,194	0,216	0,270	

■ F3BA..BWM/L/X40C...

Material Group																
	Side Milling (A) and Slotting (B)			K600		Feed per Tooth – fz information is for side milling (A). For slotting (B), reduce fz by 20%.										
	A		B	Cutting Speed – vc m/min		D1 – Diameter										
	ap	ae	ap	min	max	mm	6,0	8,0	10,0	12,0	16,0	18,0	20,0	25,0		
N	1	1,5 x D	0,5 x D	1,25 x D	500	2000	fz	0,072	0,096	0,120	0,144	0,192	0,216	0,240	0,300	
	2	1,5 x D	0,5 x D	1,25 x D	500	1500	fz	0,065	0,086	0,108	0,130	0,173	0,194	0,216	0,270	
	3	1,5 x D	0,5 x D	1,25 x D	500	1500	fz	0,050	0,067	0,084	0,101	0,134	0,151	0,168	0,210	
	4	1,5 x D	0,5 x D	1,25 x D	400	750	fz	0,050	0,067	0,084	0,101	0,134	0,151	0,168	0,210	
	5	1,5 x D	0,5 x D	1,25 x D	250	1000	fz	0,065	0,086	0,108	0,130	0,173	0,194	0,216	0,270	

■ F3BA...DL4...

Material Group																
	Side Milling (A) and Slotting (B)			K600		Feed per Tooth – fz information is for side milling (A). For slotting (B), reduce fz by 20%.										
	A		B	Cutting Speed – vc m/min		D1 – Diameter										
	ap	ae	ap	min	max	mm	6,0	8,0	10,0	12,0	16,0	18,0	20,0			
N	1	1,0 x D	0,5 x D	1,0 x D	500	2000	fz	0,078	0,104	0,130	0,156	0,208	0,234	0,260		
	2	1,0 x D	0,5 x D	1,0 x D	500	1500	fz	0,070	0,094	0,117	0,140	0,187	0,211	0,234		
	3	1,0 x D	0,5 x D	1,0 x D	500	1500	fz	0,055	0,073	0,091	0,109	0,146	0,164	0,182		
	4	1,0 x D	0,5 x D	1,0 x D	400	750	fz	0,055	0,073	0,091	0,109	0,146	0,164	0,182		
	5	1,0 x D	0,5 x D	1,0 x D	250	1000	fz	0,070	0,094	0,117	0,140	0,187	0,211	0,234		

NOTE: Those guidelines may require variations to achieve optimum results. For better surface finish, reduce feed per tooth.
 Above parameters are based on ideal conditions. For smaller taper machining centres, please adjust parameters accordingly on >12mm diameter.
 For cutting aluminium with high silicon, TiCN coating is recommended.
 Ap for milling machine with ceramic bearings spindle, multiply by 0,5.
 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%.