

	Cutting Tool	Feed Rate (mm/min)	Plunge Rate (mm/min)	Stepover (mm)	Stepdown - Slotting (mm)	Stepdown - Pocketing (mm)	Router Speed (RPM)	Makita Speed Dial Setting
pee	00 (0 Decree White W Coming	0040	750	V-bits	40.6	00.4	00000	
Carving/Detailing - Regular Speed	90, 60 Degree V-bit - V-Carving	2240 1120	750 370	1.80	10.6	23.4	22000	4
la la	30, 90, 60 Degree V-bit - Fine Detail/Engraving	1120		ed Ball End Mi		23.4	22000	4
l gegr	1/4" - D1/16" Tapered Ball End Mill - Coarse	3170	1580	0.24	N/A	25.4	28500	6
- E	1/4" - D1/16" Tapered Ball End Mill - Fine	3800	1270	0.08	N/A	25.4	28500	6
<u>=</u>	1/8" - D0.5mm Tapered Ball End Mill - Coarse	2000	1000	0.15	N/A	12.7	28500	6
eta	1/8" - D0.5mm Tapered Ball End Mill - Fine	3640	1820	0.04	N/A	12.7	28500	6
J/6u				all End Mills				
<u> </u>	1/4" Ball End Mill - Finishing	2790	1400	0.30	4.0	25.4	22000	4
్రొ	1/8" Ball End Mill - Finishing	2060	1030	0.15	5.4	25.4	27000	5
				End Mills				
	1/4" Single Flute Flat End Mill UC	1620	810	2.85	2.8	6.1	17000	3
D D	1/4" Flat End Mill UC	1650	830	2.85	2.7	6.0	12000	2
曹	1/4" Flat End Mill DC	1650	830	2.85	2.7	6.0	12000	2
5	1/4" Ball End Mill	1650	830	2.85	2.7	6.0	12000	2
Ē	1/8" Single Flute Flat End Mill UC	1050	530	1.45	4.3	9.3	22000	4
, o	1/8" Flat End Mill UC	1620	810	1.45	2.8	6.0	17000	3
guir	1/8" Flat End Mill DC	1620	810	1.45	2.8	6.0	17000	3
nisi.	1/8" Ball End Mill	1620	810	1.45	2.8	6.0	17000	3
Œ.	1/16" Flat End Mill UC	860	430	0.70	2.6	5.9	17000	3
ped	1/16" Flat End Mill DC	860	430	0.70	2.6	5.9	17000	3
Spe	1/16" Corncob End Mill	860	430	0.70	2.6	5.9	17000	3
Reduced Speed - Finishing, or mild cutting	22mm Surfacing Bit	1550	780	8.80	0.4	1.0	17000	3
ğ				nd Groove Bit				
æ	1/2" Round Groove Bit	860	430	5.70	3.2	7.2	17000	3
	3/4" Round Groove Bit	860	430	8.57	2.2	4.8	17000	3
	1" Round Groove Bit	860	430	11.43	1.6	3.6	17000	3
	4/4861 - 1 - 51 - 1 - 51 - 1 - 1 - 1 - 1 - 1	24.62		End Mills			47000	
	1/4" Single Flute Flat End Mill UC	2160	1080	2.85	4.1	9.2	17000	3
	1/4" Flat End Mill UC	2190	1100	2.85	4.1	9.1	12000	2
	1/4" Flat End Mill DC	2190	1100	2.85	4.1	9.1	12000	2
	1/4" Ball End Mill	2190	1100	2.85	4.1	9.1	12000	2
	1/8" Single Flute Flat End Mill UC	1400	700	1.45	6.4	14.0	22000	4
Regular Speed	1/8" Flat End Mill UC 1/8" Flat End Mill DC	2160 2160	1080 1080	1.45	4.1	9.1 9.1	17000 17000	3
ဇ္တ	1/8" Ball End Mill	2160	1080	1.45	4.1	9.1	17000	3
r E	1/16" Flat End Mill UC	1080	540	0.70	4.1	9.4	17000	3
Seg.	1/16" Flat End Mill DC	1080	540	0.70	4.1	9.4	17000	3
_	1/16" Corncob End Mill	1080	540	0.70	4.1	9.4	17000	3
	22mm Surfacing Bit	2070	1040	8.80	0.6	1.6	17000	3
				nd Groove Bit		2.0	2,000	
	1/2" Round Groove Bit	1040	520	5.70	8.9	19.9	17000	3
	3/4" Round Groove Bit	1300	650	8.57	4.8	10.6	17000	3
	1" Round Groove Bit	1300	650	11.43	3.6	8.0	17000	3
				End Mills				
	1/4" Single Flute Flat End Mill UC	2700	1350	2.85	5.5	12.3	17000	3
ng	1/4" Flat End Mill UC	2740	1370	2.85	5.4	12.1	12000	2
	1/4" Flat End Mill DC	2740	1370	2.85	5.4	12.1	12000	2
Ħ	1/4" Ball End Mill	2740	1370	2.85	5.4	12.1	12000	2
ve cutt	1/4 Dali Eliu Mili		880	1.45	8.5	18.6	22000	4
ssive cutt	1/8" Single Flute Flat End Mill UC	1750						3
gressive cut		1750 2700	1350	1.45	5.5	12.1	17000	ა
r aggressive cut	1/8" Single Flute Flat End Mill UC			1.45 1.45	5.5 5.5	12.1 12.1	17000 17000	3
g or aggressive cut	1/8" Single Flute Flat End Mill UC 1/8" Flat End Mill UC	2700	1350					
hing or aggressive cut	1/8" Single Flute Flat End Mill UC 1/8" Flat End Mill UC 1/8" Flat End Mill DC	2700 2700	1350 1350	1.45	5.5	12.1	17000	3
oughing or aggressive cutt	1/8" Single Flute Flat End Mill UC 1/8" Flat End Mill UC 1/8" Flat End Mill DC 1/8" Ball End Mill	2700 2700 2700	1350 1350 1350	1.45 1.45	5.5 5.5	12.1 12.1	17000 17000	3 3
- Roughing or aggressive cut	1/8" Single Flute Flat End Mill UC 1/8" Flat End Mill UC 1/8" Flat End Mill DC 1/8" Ball End Mill 1/16" Flat End Mill UC	2700 2700 2700 1350	1350 1350 1350 680	1.45 1.45 0.70	5.5 5.5 5.5	12.1 12.1 12.5	17000 17000 17000	3 3 3
ed - Roughing or aggressive cutt	1/8" Single Flute Flat End Mill UC 1/8" Flat End Mill UC 1/8" Flat End Mill DC 1/8" Ball End Mill 1/16" Flat End Mill UC 1/16" Flat End Mill UC	2700 2700 2700 1350 1350	1350 1350 1350 680 680	1.45 1.45 0.70 0.70	5.5 5.5 5.5 5.5	12.1 12.1 12.5 12.5	17000 17000 17000 17000	3 3 3 3
Speed - Roughing or aggressive cut	1/8" Single Flute Flat End Mill UC 1/8" Flat End Mill UC 1/8" Flat End Mill DC 1/8" Ball End Mill 1/16" Flat End Mill UC 1/16" Flat End Mill UC 1/16" Flat End Mill DC 1/16" Corncob End Mill	2700 2700 2700 1350 1350 1350	1350 1350 1350 680 680 680 1300	1.45 1.45 0.70 0.70 0.70	5.5 5.5 5.5 5.5 5.5 0.8	12.1 12.1 12.5 12.5 12.5	17000 17000 17000 17000 17000	3 3 3 3 3
'ull Speed - Roughing or aggressive cutt	1/8" Single Flute Flat End Mill UC 1/8" Flat End Mill UC 1/8" Flat End Mill DC 1/8" Ball End Mill 1/16" Flat End Mill UC 1/16" Flat End Mill UC 1/16" Flat End Mill DC 1/16" Corncob End Mill	2700 2700 2700 1350 1350 1350	1350 1350 1350 680 680 680 1300	1.45 1.45 0.70 0.70 0.70 8.80	5.5 5.5 5.5 5.5 5.5 0.8	12.1 12.1 12.5 12.5 12.5	17000 17000 17000 17000 17000	3 3 3 3 3
Full Speed - Roughing or aggressive cutting	1/8" Single Flute Flat End Mill UC 1/8" Flat End Mill UC 1/8" Flat End Mill DC 1/8" Ball End Mill 1/16" Flat End Mill UC 1/16" Flat End Mill UC 1/16" Corncob End Mill 22mm Surfacing Bit	2700 2700 2700 1350 1350 1350 2590	1350 1350 1350 680 680 680 1300	1.45 1.45 0.70 0.70 0.70 0.70 8.80 and Groove Bit	5.5 5.5 5.5 5.5 5.5 0.8	12.1 12.1 12.5 12.5 12.5 2.1	17000 17000 17000 17000 17000 17000	3 3 3 3 3 3





		Cutting Tool	Feed Rate (mm/min)	Plunge Rate (mm/min)	Stepover (mm)	Stepdown - Slotting (mm)	Stepdown - Pocketing (mm)	Router Speed (RPM)	Makita Speed Dial Setting
	pe				V-bits				
	<u></u>	Degree V-bit - V-Carving	1730	580	1.80	6.3	14.1	17000	3
	30, 90	, 60 Degree V-bit - Fine Detail/Engraving	1120	370	1.80	9.8	21.8	22000	4
	nge				d Ball End Mi				_
	1/4"-	D1/16" Tapered Ball End Mill - Coarse	3170	1580	0.24	N/A	25.4	28500	5
	5 1/4" -	D1/16" Tapered Ball End Mill - Fine D0.5mm Tapered Ball End Mill - Coarse	3800 1290	1900 650	0.08	N/A N/A	25.4 12.7	28500 28500	5
	1/8 -	DO.5mm Tapered Ball End Mill - Coarse DO.5mm Tapered Ball End Mill - Fine	3640	1820	0.15	N/A N/A	12.7	28500	5
	06	BO. Shim Tapered Ban End Milli - Pine	3040		all End Mills	IN/A	12.7	28300	<u> </u>
	1/4" B	all End Mill - Finishing	2790	1400	0.30	1.9	25.4	22000	4
	3 1/8" B	all End Mill - Finishing	2060	1030	0.15	2.5	25.4	27000	5
	-,522								
					End Mills				
	1/4" S	ingle Flute Flat End Mill UC	1620	810	2.85	2.8	6.1	17000	3
	වු 1/4" F	lat End Mill UC	1650	830	2.85	2.7	6.0	12000	2
	1/4" F	lat End Mill DC	1650	830	2.85	2.7	6.0	12000	2
	1/4" B	all End Mill	1650	830	2.85	2.7	6.0	12000	2
	1/4" B	ingle Flute Flat End Mill UC	1050	530	1.45	4.3	9.3	22000	4
	b 1/8" F	lat End Mill UC	1620	810	1.45	2.8	6.0	17000	3
	-	lat End Mill DC	1620	810	1.45	2.8	6.0	17000	3
	1/8" B	all End Mill	1620	810	1.45	2.8	6.0	17000	3
	[1/16"	Flat End Mill UC	860	430	0.70	2.6	5.9	17000	3
	1/16"	Flat End Mill DC	860	430	0.70	2.6	5.9	17000	3
	ق <u>1/16"</u>	Corncob End Mill	860	430	0.70	2.6	5.9	17000	3
	22mm	Surfacing Bit	1550	780	8.80	0.4	1.0	17000	3
	npe 1.000				d Groove Bit				
		ound Groove Bit	780	390	5.70	1.7	3.7	17000	3
		ound Groove Bit	860	430	8.57	1.0	2.2	17000	3
	1" Rot	ınd Groove Bit	780	390	11.43	0.8	1.8	17000	3
-					E. J. M. AND.				
	1/4" 6	ingle Flute Flat End Mill UC	2160	1080	End Mills 2.85	1.9	4.3	17000	3
		lat End Mill UC	2190	1100	2.85	1.9	4.2	12000	2
		lat End Mill DC	2190	1100	2.85	1.9	4.2	12000	2
		all End Mill	2190	1100	2.85	1.9	4.2	12000	2
		ingle Flute Flat End Mill UC	1400	700	1.45	3.0	6.5	22000	4
	4 (01) 5	lat End Mill UC	2160	1080	1.45	1.9	4.2	17000	3
	1/8" F	lat End Mill DC	2160	1080	1.45	1.9	4.2	17000	3
	1/8" B	all End Mill	2160	1080	1.45	1.9	4.2	17000	3
	<u>e</u>	Flat End Mill UC	1080	540	0.70	1.9	4.4	17000	3
	2 1/16"	Flat End Mill DC	1080	540	0.70	1.9	4.4	17000	3
	1/16"	Corncob End Mill	1080	540	0.70	1.9	4.4	17000	3
	22mm	Surfacing Bit	2070	1040	8.80	0.3	0.7	17000	3
-				Roun	d Groove Bit	S			
	1/2" R	ound Groove Bit	1040	520	5.70	4.2	9.3	17000	3
	3/4" R	ound Groove Bit	1300	650	8.57	2.2	4.9	17000	3
	1" Rou	ınd Groove Bit	1300	650	11.43	1.7	3.7	17000	3
					End Mills				
		ingle Flute Flat End Mill UC	2700	1350	2.85	2.6	5.7	17000	3
	1/4" F	lat End Mill UC	2740	1370	2.85	2.5	5.6	12000	2
	1/4" F	lat End Mill DC	2740	1370	2.85	2.5	5.6	12000	2
	Φ 1/4" B	all End Mill	2740	1370	2.85	2.5	5.6	12000	2
	<u>></u>		1750	880	1.45	3.9	8.6	22000	4
	1/8" S	ingle Flute Flat End Mill UC		4050					3
	1/8" S	lat End Mill UC	2700	1350	1.45	2.6	5.6	17000	
	1/8" S 1/8" F 1/8" F	lat End Mill UC lat End Mill DC	2700 2700	1350	1.45	2.6	5.6	17000	3
	1/8" S 1/8" F 1/8" F 1/8" B	lat End Mill UC lat End Mill DC all End Mill	2700 2700 2700	1350 1350	1.45 1.45	2.6 2.6	5.6 5.6	17000 17000	3
	1/8" S 1/8" F 1/8" F 1/8" B 1/16"	lat End Mill UC lat End Mill DC all End Mill Flat End Mill UC	2700 2700 2700 1350	1350 1350 680	1.45 1.45 0.70	2.6 2.6 2.6	5.6 5.6 5.8	17000 17000 17000	3 3 3
	1/8" S 1/8" S 1/8" F 1/8" F 1/8" B 1/16" 1/16" 1/16"	lat End Mill UC lat End Mill DC all End Mill Flat End Mill UC Flat End Mill DC	2700 2700 2700 1350 1350	1350 1350 680 680	1.45 1.45 0.70 0.70	2.6 2.6 2.6 2.6	5.6 5.6 5.8 5.8	17000 17000 17000 17000	3 3 3
	1/8" S 1/8" S 1/8" F 1/8" F 1/8" B 1/16" F 1/1	lat End Mill UC lat End Mill DC all End Mill Flat End Mill UC Flat End Mill DC Corncob End Mill	2700 2700 2700 1350 1350 1350	1350 1350 680 680 680	1.45 1.45 0.70 0.70 0.70	2.6 2.6 2.6 2.6 2.6	5.6 5.6 5.8 5.8 5.8	17000 17000 17000 17000 17000	3 3 3 3 3
	1/8" S 1/8" S 1/8" F 1/8" F 1/8" F 1/8" F 1/8" B 1/16" 1/16" 1/16" 22mm	lat End Mill UC lat End Mill DC all End Mill Flat End Mill UC Flat End Mill DC	2700 2700 2700 1350 1350	1350 1350 680 680 680 1300	1.45 1.45 0.70 0.70 0.70 8.80	2.6 2.6 2.6 2.6 2.6 2.6 0.4	5.6 5.6 5.8 5.8	17000 17000 17000 17000	3 3 3
	1/8"S 1/8"S 1/8"F 1/8"F 1/8"F 1/8"F 1/8"B 1/16" 1/16" 1/16" 1/16" 22mm	lat End Mill UC lat End Mill DC all End Mill Flat End Mill UC Flat End Mill DC Corncob End Mill Surfacing Bit	2700 2700 2700 1350 1350 1350 2590	1350 1350 680 680 680 1300	1.45 1.45 0.70 0.70 0.70 8.80 d Groove Bits	2.6 2.6 2.6 2.6 2.6 0.4	5.6 5.6 5.8 5.8 5.8 1.0	17000 17000 17000 17000 17000 17000	3 3 3 3 3
	1/8" S 1/8" F 1/8" F 1/8" F 1/8" F 1/16" 1/16" 1/16" 1/16" 1/16" 1/16" 1/12" R	lat End Mill UC lat End Mill DC all End Mill Flat End Mill UC Flat End Mill DC Corncob End Mill	2700 2700 2700 1350 1350 1350	1350 1350 680 680 680 1300	1.45 1.45 0.70 0.70 0.70 8.80	2.6 2.6 2.6 2.6 2.6 2.6 0.4	5.6 5.6 5.8 5.8 5.8	17000 17000 17000 17000 17000	3 3 3 3 3





		Cutting Tool	Feed Rate (mm/min)	Plunge Rate (mm/min)	Stepover (mm)	Stepdown - Slotting (mm)	Stepdown - Pocketing (mm)	Router Speed (RPM)	Makita Speed Dial Setting	
	70				V-bits					
	eec.	90, 60 Degree V-bit - V-Carving	1730	580	1.80	0.7	1.6	17000	3	
	r S	30, 90, 60 Degree V-bit - Fine Detail/Engraving	1120	370	1.80	1.1	2.4	22000	4	
	Carving/Detailing - Regular Speed			Tapere	d Ball End Mi	lls				
	Reç	1/4" - D1/16" Tapered Ball End Mill - Coarse	700	350	0.24	N/A	0.4	10000	1	
	- <u>6</u> 1	1/4" - D1/16" Tapered Ball End Mill - Fine	1000	500	0.08	N/A	0.4	10000	1	
	aii.	1/8" - D0.5mm Tapered Ball End Mill - Coarse	2000	1000	0.15	N/A	0.25	10000	1	
	Det	1/8" - D0.5mm Tapered Ball End Mill - Fine	3000	1500	0.04	N/A	0.25	10000	1	
	ng/	Ball End Mills								
	ar∨i	1/4" Ball End Mill - Finishing	1680	840	0.13	1.4	25.4	22000	4	
	S	1/8" Ball End Mill - Finishing	1030	520	0.13	2.3	25.4	27000	5	
	bu			Ē	nd Mills					
	ut i	1/4" Single Flute Flat End Mill UC	1600	800	2.85	0.6	1.3	12000	2	
	o pi	1/4" Flat End Mill UC	2310	1160	2.85	0.4	0.9	10000	1	
	gs I	1/4" Ball End Mill	2310	1160	2.85	0.4	0.9	10000	1	
	Reduced Speed - Finishing, or mild cutting	1/8" Single Flute Flat End Mill UC	800	400	1.45	1.2	2.5	12000	2	
		1/8" Flat End Mill UC	1600	800	1.45	0.6	1.3	12000	2	
		1/8" Ball End Mill	1600	800	1.45	0.6	1.3	12000	2	
		1/16" Flat End Mill UC	1130	570	0.70	0.4	0.9	17000	3	
The					Ind Mills					
	σ	1/4" Single Flute Flat End Mill UC	1830	920	2.85	1.0	2.3	12000	2	
	eed	1/4" Flat End Mill UC	2640	1320	2.85	0.7	1.6	10000	1	
	S.	1/4" Ball End Mill	2640	1320	2.85	0.7	1.6	10000	1	
	Regular Speed	1/8" Single Flute Flat End Mill UC	910	460	1.45	2.0	4.5	12000	2	
	Re	1/8" Flat End Mill UC	1830	920	1.45	1.0	2.2	12000	2	
		1/8" Ball End Mill	1830	920	1.45	1.0	2.2	12000	2	
•		1/16" Flat End Mill UC	1300	650	0.70	0.7	1.6	17000	3	
		5.1349								
	ing or	1/4" Single Flute Flat End Mill UC	2290	1150	End Mills 2.85	1.4	3.0	12000	2	
	ıghi uttir	1/4" Flat End Mill UC	3300	1650	2.85	0.9	2.1	10000	1	
	Full Speed - Roughing or aggressive cutting	1/4" Ball End Mill	3300	1650	2.85	0.9	2.1	10000	1	
	d - l	1/8" Single Flute Flat End Mill UC	1140	570	1.45	2.7	5.9	12000	2	
	pee	1/8" Flat End Mill UC	2290	1150	1.45	1.4	3.0	12000	2	
	l S agg	1/8 Flat End Mill OC 1/8" Ball End Mill	2290	1150	1.45	1.4	3.0	12000	2	
	교	1/16" Flat End Mill UC	1620	810	0.70	1.0	2.2	17000	3	
		1/10 FIALEND MIII UC	1020	810	0.70	1.0	2.2	17000	3	





			Feed Rate	Plunge Rate	Stepover	Stepdown - Slotting	Stepdown - Pocketing	Router Speed	Makita Speed
		Cutting Tool	(mm/min)	(mm/min)	(mm)	(mm)	(mm)	(RPM)	Dial Setting
	bu				V-bits				
	taill	30, 90, 60 Degree V-bit - Fine Detail/Engraving	1350	450	1.45	0.2	0.5	17000	3
	g/De			Ba	II End Mills				
	Carving/Detailing	1/4" Ball End Mill - Finishing	1120	560	0.30	0.4	25.4	22000	4
	Ca	1/8" Ball End Mill - Finishing	690	350	0.15	0.7	25.4	27000	5
	ting				End Mills				
	out	1/4" Single Flute Flat End Mill UC	880	440	2.85	0.3	0.6	17000	3
	Spec	1/4" Flat End Mill UC	1240	620	2.85	0.2	0.4	12000	2
	ped (1/4" Ball End Mill	1240	620	2.85	0.2	0.4	12000	2
	oduc ing,	1/8" Single Flute Flat End Mill UC	440	220	1.45	0.4	0.9	17000	3
	Reduced Speed - Finishing, or mild cutting	1/8" Flat End Mill UC	880	440	1.45	0.2	0.5	17000	3
	Ē	1/8" Ball End Mill	880	440	1.45	0.2	0.5	17000	3
					End Mills				
The same	_	1/4" Single Flute Flat End Mill UC	1080	540	2.85	0.4	0.9	17000	3
	Regular Speed	1/4" Flat End Mill UC	1520	760	2.85	0.3	0.6	12000	2
	ar Sp	1/4" Ball End Mill	1520	760	2.85	0.3	0.6	12000	2
	gulk	1/8" Single Flute Flat End Mill UC	540	270	1.45	0.6	1.3	17000	3
	Re	1/8" Flat End Mill UC	1080	540	1.45	0.3	0.7	17000	3
		1/8" Ball End Mill	1080	540	1.45	0.3	0.7	17000	3
	gr g	End Mills							
	ghin	1/4" Single Flute Flat End Mill UC	1350	680	2.85	0.5	1.0	17000	3
	Rou 'e cı	1/4" Flat End Mill UC	1910	960	2.85	0.3	0.7	12000	2
	- pe ssiv	1/4" Ball End Mill	1910	960	2.85	0.3	0.7	12000	2
	Spec	1/8" Single Flute Flat End Mill UC	670	340	1.45	0.7	1.5	17000	3
	Full Speed - Roughing or aggressive cutting	1/8" Flat End Mill UC	1350	680	1.45	0.4	0.8	17000	3
	Г	1/8" Ball End Mill	1350	680	1.45	0.4	0.8	17000	3

