

WORK	CARBON STEEL (HRC35)	ALLOY STEEL (~HRC45)	HARDENED STEEL (~HRC50)	HARDENED STEEL (HRC60)	CAST IRON	STAINLESS STEEL/ TITANIUM ALLOY	NI-BASED ALLOY	COPPER ALLOY	ALUMINUM	SYNTHETIC RESIN
1st Recommendation ● 2nd Recommendation ○ 3rd Recommendation △	●	●	●	●	●	△	△	○		

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SOLID CARBIDE END MILLS-MILLING CONDITION (Side Milling Roughing)

WORKING MATERIAL	CARBON STEEL / ALLOY STEEL		ALLOY STEEL / TOOL STEEL		PREHARDENED STEEL / HARDENED STEEL		STAINLESS STEEL		TITANIUM ALLOY		NI-BASED ALLOY			
MATERIAL CODE	(SS400,S55C,FC250)		(SCM,SKT,SKD)		(SKT,SKD,NAK55)		(SUS304,SKD)		-		-			
HARDNESS GRADE	HRC <20		HRC 20~30		HRC 30~40		HRC 38~45		-		-			
Vc	130M/min		120M/min		110M/min		70M/min		60M/min		20M/min			
DIAMETER	R.P.M	FEED (mm/min)	R.P.M	FEED (mm/min)	R.P.M	FEED (mm/min)	R.P.M	FEED (mm/min)	R.P.M	FEED (mm/min)	R.P.M	FEED (mm/min)		
2MM	21,170	1,200	19,500	890	13,370	790	11,140	420	10,020	380	3,340	150		
3MM	14,110	1,200	13,000	890	8,920	790	7,430	420	6,690	380	2,230	150		
4MM	10,580	1,200	9,750	890	6,690	790	5,570	420	5,010	380	1,670	150		
5MM	8,470	1,200	7,800	890	5,350	790	4,460	420	4,010	380	1,340	150		
6MM	7,060	1,200	6,500	890	4,460	790	3,720	420	3,340	380	1,110	150		
8MM	5,290	1,200	4,870	890	3,350	790	2,790	420	2,510	380	830	150		
10MM	4,240	1,200	3,900	890	2,670	790	2,230	420	2,000	380	670	150		
12MM	3,530	1,200	3,250	890	2,230	790	1,860	420	1,670	380	560	160		
14MM	3,020	1,200	2,790	890	1,910	790	1,590	420	1,440	380	480	150		
16MM	2,650	1,200	2,440	890	1,670	790	1,390	420	1,250	380	420	160		
20MM	2,110	1,200	1,950	890	1,340	790	1,110	420	1,000	380	340	160		
25MM	1,690	1,200	1,560	890	1,070	790	890	420	810	380	270	150		
Milling Amount (mm)	AD=1D RD=0.4D								AD=1D RD=0.4D				AD=0.5D RD=0.15D	

SOLID CARBIDE END MILLS-MILLING CONDITION (Slotting)

WORKING MATERIAL	CARBON STEEL / ALLOY STEEL		ALLOY STEEL / TOOL STEEL		PREHARDENED STEEL / HARDENED STEEL		STAINLESS STEEL		TITANIUM ALLOY		NI-BASED ALLOY	
MATERIAL CODE	(SS400,S55C,FC250)		(SCM,SKT,SKD)		(SKT,SKD,NAK55)		(SUS304,SKD)		-		-	
HARDNESS GRADE	HRC <20		HRC 20~30		HRC 30~40		HRC 38~45		-		-	
Vc	110M/min		100M/min		80M/min		56M/min		50M/min		17.5M/min	
DIAMETER	R.P.M	FEED (mm/min)	R.P.M	FEED (mm/min)	R.P.M	FEED (mm/min)	R.P.M	FEED (mm/min)	R.P.M	FEED (mm/min)	R.P.M	FEED (mm/min)
2mm	19,100	700	15,600	650	13,370	480	8,910	270	7,800	230	2,790	50
3mm	12,740	700	10,400	650	8,910	480	6,260	270	5,200	230	1,860	50
4mm	9,550	700	7,800	650	6,690	480	4,460	270	3,900	230	1,390	50
5mm	7,640	700	6,240	650	5,350	480	3,560	270	3,120	230	1,110	50
6mm	6,370	700	5,200	650	4,460	480	2,970	270	2,600	230	930	50
8mm	4,780	700	3,900	650	3,340	480	2,230	270	1,950	230	690	50
10mm	3,820	700	3,120	650	2,670	480	1,790	270	1,560	230	560	50
12mm	3,180	700	2,600	650	2,230	480	1,480	270	1,300	230	460	50
14mm	2,730	700	2,230	650	1,910	480	1,270	270	1,110	230	400	50
16mm	2,380	700	1,950	650	1,670	480	1,110	270	970	230	350	50
20mm	1,910	700	1,560	650	1,340	480	890	270	780	230	280	50
25mm	1,530	700	1,250	650	1,070	480	710	270	620	230	220	50
Milling Amount (mm)	AD=1D RD=1D				AD=0.8D RD=1D				AD=0.5D RD=1D			

These are recommended values which depend on the condition of the machine, fixture, lubricating & cooling systems... etc. They may have to be adapted.