

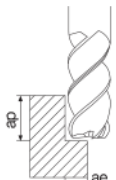
# RECOMMENDED CUTTING CONDITIONS

## 2FESS

GRADES	INSERTS	CBN & PCD	TURNING	BORING	GROOVING	CUT-OFF	THREADING	SOLID END MILLS	MILLING	SPARE PARTS	TECHNICAL	INDEX												
A	B	C	E	F	G	H	J	L	M	P	R	T												
													Applications	Workpiece Material	Application	Outside Dia. Dc (mm)	Ø1	Ø2	Ø4	Ø6	Ø8	Ø12	Ø16	
													 <p>Shouldering</p> <p>(ap×ae) (inch)</p> <p>0.0472Dc×0.0020Dc (Dc&lt;Ø3) 0.0472Dc×0.0039Dc (Dc≥Ø3)</p>	Carbon Steel	Shouldering	Spindle RPM	25,500	13,200	6,600	4,500	3,300	2,200	1,700	
																Feed Rate (IPM)	8.858	9.055	14.764	16.339	16.535	16.142	16.142	
															Slotting	Spindle RPM	15,300	8,000	4,000	2,700	2,000	1,300	1,000	
																Feed Rate (IPM)	5.315	5.512	8.858	9.843	9.843	9.646	9.646	
															Alloy Steel	Shouldering	Spindle RPM	22,000	11,000	5,600	3,700	2,800	1,900	1,400
																	Feed Rate (IPM)	7.677	8.661	11.220	12.402	12.205	12.205	12.205
														Slotting		Spindle RPM	13,000	6,600	3,400	2,200	1,700	1,200	900	
																Feed Rate (IPM)	4.528	5.118	6.693	7.480	7.283	7.283	7.283	
														Pre-hardened steel (30~45HRC)		Shouldering	Spindle RPM	12,700	7,200	4,200	3,000	2,200	1,500	1,100
																	Feed Rate (IPM)	2.165	3.150	3.937	4.134	4.134	4.331	4.331
															Slotting	Spindle RPM	7,600	4,300	2,500	1,800	1,300	900	700	
																Feed Rate (IPM)	1.378	1.969	2.362	2.480	2.480	2.559	2.559	
													Stainless Steel		Shouldering	Spindle RPM	22,000	11,000	5,600	3,700	2,800	1,900	1,400	
																Feed Rate (IPM)	3.740	3.740	4.331	4.528	4.528	4.528	4.528	
														Slotting	Spindle RPM	13,000	6,600	3,400	2,200	1,700	1,200	900		
															Feed Rate (IPM)	2.362	2.362	2.559	2.756	2.756	2.756	2.756		
														Slotting	Spindle RPM	13,000	6,600	3,400	2,200	1,700	1,200	900		
															Feed Rate (IPM)	2.362	2.362	2.559	2.756	2.756	2.756	2.756		

\* Cutting with coolant is recommended for stainless steel.

## 2FESM

GRADES	INSERTS	CBN & PCD	TURNING	BORING	GROOVING	CUT-OFF	THREADING	SOLID END MILLS	MILLING	SPARE PARTS	TECHNICAL	INDEX													
A	B	C	E	F	G	H	J	L	M	P	R	T													
													Applications	Workpiece Material	Application	Outside Dia. Dc (mm)	Ø0.5	Ø1	Ø2	Ø4	Ø6	Ø8	Ø12	Ø16	
													 <p>Shouldering</p> <p>(ap×ae) (inch)</p> <p>0.0591Dc×0.0020Dc (Dc&lt;Ø3) 0.0591Dc×0.0039Dc (Dc≥Ø3)</p>	Carbon Steel	Shouldering	Spindle RPM	32,000	25,500	13,200	6,600	4,500	3,300	2,200	1,700	
																Feed Rate (IPM)	8.268	8.858	9.055	14.764	16.339	16.535	16.142	16.142	
															Slotting	Spindle RPM	19,000	15,300	8,000	4,000	2,700	2,000	1,300	1,000	
																Feed Rate (IPM)	5.118	5.315	5.512	8.858	9.843	9.843	9.646	9.646	
															Alloy Steel	Shouldering	Spindle RPM	27,000	22,000	11,000	5,600	3,700	2,800	1,900	1,400
																	Feed Rate (IPM)	7.087	7.677	8.661	11.220	12.402	12.205	12.205	12.205
														Slotting		Spindle RPM	16,000	13,000	6,600	3,400	2,200	1,700	1,200	900	
																Feed Rate (IPM)	4.134	4.528	5.118	6.693	7.480	7.283	7.283	7.283	
														Pre-hardened Steel (30~45HRC)		Shouldering	Spindle RPM	22,500	12,700	7,200	4,200	3,000	2,200	1,500	1,100
																	Feed Rate (IPM)	1.969	2.165	3.150	3.937	4.134	4.134	4.331	4.331
															Slotting	Spindle RPM	13,500	7,600	4,300	2,500	1,800	1,300	900	700	
																Feed Rate (IPM)	1.181	1.378	1.969	2.362	2.480	2.480	2.559	2.559	
													Stainless Steel		Shouldering	Spindle RPM	27,000	22,000	11,000	5,600	3,700	2,800	1,900	1,400	
																Feed Rate (IPM)	2.362	3.740	3.740	4.331	4.528	4.528	4.528	4.528	
														Slotting	Spindle RPM	16,000	13,000	6,600	3,400	2,200	1,700	1,200	900		
															Feed Rate (IPM)	1.378	2.362	2.362	2.559	2.756	2.756	2.756	2.756		
														Slotting	Spindle RPM	16,000	13,000	6,600	3,400	2,200	1,700	1,200	900		
															Feed Rate (IPM)	1.378	2.362	2.362	2.559	2.756	2.756	2.756	2.756		

\* Cutting with coolant is recommended for stainless steel.