

Slotting

ISO	Material No.	Material	Condition	Cutting Speed Recommendations (Vc) SFM	Hardness HB	Cutting Diameter Feed (IPT)												Slotting Axial
						1/8	3/16	1/4	5/16	3/8	7/16	1/2	5/8	3/4	1	ap max		
P	1	Non-alloy steel and cast steel,	Annealed	740-800	125	.0003	.0004	.0006	.0007	.0009	.0010	.0012	.0015	.0018	.0024	1xD		
	2		Annealed	590-680	190	.0003	.0004	.0006	.0007	.0009	.0010	.0012	.0015	.0018	.0024	1xD		
	3	free cutting steel	Quench and tempered	475-650	250	.0003	.0004	.0006	.0007	.0009	.0010	.0012	.0015	.0018	.0024	1xD		
	4		Annealed	475-650	220	.0003	.0004	.0006	.0007	.0009	.0010	.0012	.0015	.0018	.0024	1xD		
	5		Quenched & tempered	420-530	300	.0003	.0004	.0006	.0007	.0009	.0010	.0012	.0015	.0018	.0024	1xD		
	6		Annealed	475-650	200	.0003	.0004	.0006	.0007	.0009	.0010	.0012	.0015	.0018	.0024	1xD		
	7	Low alloy & cast steel (less than 5% of alloying elements)	Quenched & tempered	355-530	275	.0003	.0004	.0006	.0007	.0009	.0010	.0012	.0015	.0018	.0024	1xD		
	8		Quenched & tempered	380-530	300	.0003	.0004	.0006	.0007	.0009	.0010	.0012	.0015	.0018	.0024	1xD		
	9		Quenched & tempered	415-530	350	.0003	.0004	.0006	.0007	.0009	.0010	.0012	.0015	.0018	.0024	1xD		
	10	High alloyed steel, cast steel and tool steel	Annealed	380-530	200	.0003	.0004	.0006	.0007	.0009	.0010	.0012	.0015	.0018	.0024	1xD		
	11		Quenched & tempered	200-360	325	.0003	.0004	.0006	.0007	.0009	.0010	.0012	.0015	.0018	.0024	1xD		
	12	Stainless steel and cast steel	Ferritic/martensitic	230-475	200	.0003	.0004	.0006	.0007	.0009	.0020	.0012	.0015	.0018	.0024	1xD		
	13		Martensitic	175-440	240	.0003	.0004	.0006	.0007	.0009	.0020	.0012	.0015	.0018	.0024	1xD		
M	14	Stainless steel and cast steel	Austenitic	175-360	180	.0003	.0004	.0006	.0007	.0009	.0020	.0012	.0015	.0018	.0024	1xD		
K	15	Grey cast iron (GG)	Pearlitic/ferritic	235-740	180	.0003	.0004	.0006	.0007	.0009	.0030	.0012	.0015	.0018	.0024	1xD		
	16		Pearlitic/martensitic	380-700	260	.0003	.0004	.0006	.0007	.0009	.0030	.0012	.0015	.0018	.0024	1xD		
	17	Nodular cast iron (GGG)	Ferritic	440-800	160	.0003	.0004	.0006	.0007	.0009	.0010	.0012	.0015	.0018	.0024	1xD		
	18		Pearlitic	440-800	250	.0003	.0004	.0006	.0007	.0009	.0010	.0012	.0015	.0018	.0024	1xD		
	19	Malleable cast iron	Ferritic	440-800	130	.0003	.0004	.0006	.0007	.0009	.0010	.0012	.0015	.0018	.0024	1xD		
	20		Pearlitic	415-710	230	.0003	.0004	.0006	.0007	.0009	.0010	.0012	.0015	.0018	.0024	1xD		
S	31	High temp. alloys	Fe based	Annealed	60-120	200	.0003	.0004	.0006	.0007	.0009	.0010	.0012	.0015	.0018	.0024	1xD	
	32			Cured	60-90	280	.0003	.0004	.0006	.0007	.0009	.0010	.0012	.0015	.0018	.0024	1xD	
	33		Ni or Co based	Annealed	60-90	250	.0003	.0004	.0006	.0007	.0009	.0010	.0012	.0015	.0018	.0024	1xD	
	34			Cured	60-90	350	.0003	.0004	.0006	.0007	.0009	.0010	.0012	.0015	.0018	.0024	1xD	
	35			Cast	60-90	320	.0003	.0004	.0006	.0007	.0009	.0010	.0012	.0015	.0018	.0024	1xD	
	36	Titanium Ti alloys	Pure	90-235	310	.0003	.0004	.0006	.0007	.0009	.0020	.0012	.0015	.0018	.0024	1xD		
	37		Alpha+beta alloys cured	80-235	310	.0003	.0004	.0006	.0007	.0009	.0010	.0012	.0015	.0018	.0024	1xD		

Roughing

ISO	Material No.	Material	Condition	Cutting Speed Recommendations (Vc) SFM	Hardness HB	Cutting Diameter Feed (IPT)												Profiling Radial	
						1/8	3/16	1/4	5/16	3/8	7/16	1/2	5/8	3/4	1	ap	ae		
P	1	Non-alloy steel and cast steel, free cutting steel	<.25%C	Annealed	985-1000	125	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD	
	2		>=.25%C	Annealed	785-850	190	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD	
	3		<.55%C	Quench and tempered	630-810	250	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD	
	4		>=.55%C	Annealed	630-810	220	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD	
	5		>=.55%C	Quenched & tempered	560-660	300	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD	
	6	Low alloy & cast steel (less than 5% of alloying elements)	Annealed	630-810	200	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD		
	7		Quenched & tempered	470-660	275	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD		
	8		Quenched & tempered	500-660	300	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD		
	9		Quenched & tempered	550-660	350	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD		
	10	High alloyed steel, cast steel and tool steel	Annealed	500-660	200	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD		
	11		Quenched & tempered	270-450	325	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD		
	12	Stainless steel and cast steel	Ferritic/martensitic	310-590	200	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD		
	13		Martensitic	235-550	240	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD		
M	14	Stainless steel and cast steel	Austenitic	235-450	180	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD		
K	15	Grey cast iron (GG)	Pearlitic/ferritic	310-925	180	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD		
	16		Pearlitic/martensitic	500-875	260	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD		
	17	Nodular cast iron (GGG)	Ferritic	590-1000	160	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD		
	18		Pearlitic	590-1000	250	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD		
	19	Malleable cast iron	Ferritic	590-1000	130	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD		
	20		Pearlitic	550-890	230	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD		
S	31	High temp. alloys	Fe based	Annealed	80-150	200	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD	
	32			Cured	80-115	280	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD	
	33		Ni or Co based	Annealed	80-115	250	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD	
	34			Cured	80-115	350	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD	
	35			Cast	80-115	320	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD	
	36	Titanium Ti alloys	Pure	120-295	310	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD		
	37		Alpha+beta alloys cured	110-220	310	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD		
H	38	Hardened Steel	Hardened	110-210	55 HRC	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.02xD		
	39		Hardened	110-145	60 HRC	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.02xD		
	40	Chilled Cast Iron	Cast	250-320	400	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.02xD		
	41	Cast Iron	Hardened	110-210	55 HRC	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.02xD		

Semi-Finish

ISO
