

ASF

Recommended Cutting Condition

Work piece material	Work piece material	Insert material	Parameter	Dia.2 1/2" (4 Flute)			Dia.3" (4 Flute)			Dia.4" (5 Flute)		
				Roughing		Finishing	Roughing		Finishing	Roughing		Finishing
				Machine Power			Machine Power			Machine Power		
Week	Strong		Week	Strong		Week	Strong					
I	Mild steel	TB6045 CY 250 = 80%SFM	RPM	902	902	1,352	716	716	1,073	572	572	859
	Carbon steel (<200HB)		SFM	590	590	885	590	590	885	590	590	885
	1018 Hot/Cold Rolled		IPM	212.8	354.8	63.8	168.9	281.7	50.7	168.9	281.7	50.7
			Feed per Tooth	.059	.0984	.0118	.059	.0984	.0118	.059	.0984	.0118
			Depth of Cut	.059	.0787	.0118	.059	.0787	.0118	.059	.0787	.0118
			Width of Cut	<2.204	<2.204	<2.204	<2.204	<2.204	<2.204	<2.755	<2.755	<2.755
II	Carbon steel	TB6045 CY 250 = 80%SFM	RPM	840	840	1,203	667	667	955	534	534	764
	Alloy steel (<30HRC)		SFM	550	550	787	550	550	787	550	550	787
	P-20		IPM	198.3	330.8	56.8	157.4	262.6	45.1	157.4	262.6	45.1
			Feed per Tooth	.059	.0984	.0118	.059	.0984	.0118	.059	.0984	.0118
			Depth of Cut	.059	.059	.0118	.059	.059	.0118	.059	.059	.0118
			Width of Cut	<2.204	<2.204	<2.204	<2.204	<2.204	<2.204	<2.755	<2.755	<2.755
III	Carbon steel	TB6045 CY 250 = 80%SFM	RPM	801	801	1,203	636	636	955	508	508	764
	Alloy steel (30-40HRC)		SFM	524	524	787	524	524	787	524	524	787
	P-20 High Hard		IPM	189.0	252.1	56.8	150.0	200.1	45.1	150.0	200.1	45.1
			Feed per Tooth	.059	.0787	.0118	.059	.0787	.0118	.059	.0787	.0118
			Depth of Cut	.059	.059	.0118	.059	.059	.0118	.059	.059	.0118
			Width of Cut	<2.204	<2.204	<2.204	<2.204	<2.204	<2.204	<2.755	<2.755	<2.755
III	Carbon steel	TB6045 CY 250 = 80%SFM	RPM	501	501	752	398	398	597	318	318	477
	Alloy steel (40-45HRC)		SFM	328	328	492	328	328	492	328	328	492
	4140		IPM	62.9	118.3	35.5	50.0	93.9	28.2	50.0	93.9	28.2
			Feed per Tooth	.0314	.059	.0118	.0314	.059	.0118	.0314	.059	.0118
			Depth of Cut	.059	.059	.0118	.059	.059	.0118	.059	.059	.0118
			Width of Cut	<2.204	<2.204	<2.204	<2.204	<2.204	<2.204	<2.755	<2.755	<2.755
IV	Carbon steel	TB6045 CY 250 = 80%SFM	RPM	451	451	601	358	358	477	286	286	381
	Alloy steel (45-50HRC)		SFM	295	295	393	295	295	393	295	295	393
	D-2		IPM	21.3	35.3	18.7	16.9	28.1	14.9	16.9	28.1	14.9
			Feed per Tooth	.0118	.0196	.0078	.0118	.0196	.0078	.0118	.0196	.0078
			Depth of Cut	.059	.059	.0118	.059	.059	.0118	.059	.059	.0118
			Width of Cut	<2.204	<2.204	<2.204	<2.204	<2.204	<2.204	<2.755	<2.755	<2.755
VI	Stainless steel	TB6045 GX30	RPM	451	451	601	358	358	477	286	286	381
			SFM	295	295	393	295	295	393	295	295	393
			IPM	70.9	106.4	28.3	56.2	84.4	22.5	56.2	84.4	22.5
			Feed per Tooth	.0393	.059	.0118	.0393	.059	.0118	.0393	.059	.0118
			Depth of Cut	.059	.059	.0118	.059	.059	.0118	.059	.059	.0118
			Width of Cut	<2.204	<2.204	<2.204	<2.204	<2.204	<2.204	<2.755	<2.755	<2.755
VIII	Cast iron GG	TB6045 GX30	RPM	801	801	1,203	636	636	955	508	508	764
	GGG		SFM	524	524	787	524	524	787	524	524	787
			IPM	252.1	377.9	56.8	200.1	300.0	45.1	200.1	300.0	45.1
			Feed per Tooth	.0787	.118	.0118	.0787	.118	.0118	.0787	.118	.0118
			Depth of Cut	.0787	.0787	.0118	.0787	.0787	.0118	.0787	.0787	.0118
			Width of Cut	<2.204	<2.204	<2.204	<2.204	<2.204	<2.204	<2.755	<2.755	<2.755
Maximum (Feed per Tooth)				<.1377			<.1377			<.1377		
Maximum Depth of Cut				<.118			<.118			<.118		



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Recommended Cutting Condition

Work piece material	Work piece material	Insert material	Parameter	Dia.5" (6 Flute)			Dia.6" (8 Flute)			Dia. 8" (10 Flute)		
				Roughing		Finishing	Roughing		Finishing	Roughing		Finishing
				Machine Power			Machine Power			Machine Power		
Week	Strong		Week	Strong		Week	Strong					
I	Mild steel Carbon steel (<200HB) 1018 Hot/Cold Rolled	TB6045 CY 250 = 80%SFM	RPM	458	458	687	417	417	625	333	333	500
			SFM	590	590	885	687	687	1031	687	687	1031
			IPM	162.1	270.4	48.6	196.6	328.0	59.0	196.6	328.0	59.0
			Feed per Tooth	.059	.0984	.0118	.059	.0984	.0118	.059	.0984	.0118
			Depth of Cut	.059	.0787	.0118	.059	.0787	.0118	.059	.0787	.0118
			Width of Cut	<3.464	<3.464	<3.464	<4.410	<4.410	<4.410	<5.510	<5.510	<5.510
II	Carbon steel Alloy steel (<30HRC) P-20	TB6045 CY 250 = 80%SFM	RPM	427	427	611	334	334	477	267	267	382
			SFM	550	550	787	550	550	787	550	550	787
			IPM	151.1	252.1	43.3	157.4	262.6	45.1	157.4	262.6	45.1
			Feed per Tooth	.059	.0984	.0118	.059	.0984	.0118	.059	.0984	.0118
			Depth of Cut	.059	.059	.0118	.059	.059	.0118	.059	.059	.0118
			Width of Cut	<3.464	<3.464	<3.464	<4.410	<4.410	<4.410	<5.510	<5.510	<5.510
III	Carbon steel Alloy steel (30-40HRC) P-20 High Hard	TB6045 CY 250 = 80%SFM	RPM	407	407	611	318	318	477	254	254	382
			SFM	524	524	787	524	524	787	524	524	787
			IPM	144.0	192.1	43.3	150.0	200.1	45.1	150.0	200.1	45.1
			Feed per Tooth	.059	.0787	.0118	.059	.0787	.0118	.059	.0787	.0118
			Depth of Cut	.059	.059	.0118	.059	.059	.0118	.059	.059	.0118
			Width of Cut	<3.464	<3.464	<3.464	<4.410	<4.410	<4.410	<5.510	<5.510	<5.510
III	Carbon steel Alloy steel (40-45HRC) 4140	TB6045 CY 250 = 80%SFM	RPM	255	255	382	199	199	298	159	159	239
			SFM	328	328	492	328	328	492	328	328	492
			IPM	48.0	90.1	27.0	50	94	28	50	94	28
			Feed per Tooth	.0314	.059	.0118	.0315	.059	.0118	.0315	.059	.0118
			Depth of Cut	.059	.059	.0118	.059	.059	.0118	.059	.059	.0118
			Width of Cut	<3.464	<3.464	<3.464	<4.410	<4.410	<4.410	<5.510	<5.510	<5.510
IV	Carbon steel Alloy steel (45-50HRC) D-2	TB6045 CY 250 = 80%SFM	RPM	229	229	305	179	179	238	143	143	191
			SFM	295	295	393	295	295	393	295	295	393
			IPM	16.2	26.9	14.3	17	28	15	17	28	15
			Feed per Tooth	.0118	.0196	.0078	.0118	.0196	.0078	.0118	.0196	.0078
			Depth of Cut	.059	.059	.0118	.059	.059	.0118	.059	.059	.0118
			Width of Cut	<3.464	<3.464	<3.464	<4.410	<4.410	<4.410	<5.510	<5.510	<5.510
VI	Stainless steel	TB6045 GX30	RPM	229	229	305	179	179	238	143	143	191
			SFM	295	295	393	295	295	393	295	295	393
			IPM	54.0	81.1	21.6	56	84	22	56	84	22
			Feed per Tooth	.0393	.059	.0118	.0393	.059	.0118	.0393	.059	.0118
			Depth of Cut	.059	.059	.0118	.059	.059	.0118	.059	.059	.0118
			Width of Cut	<3.464	<3.464	<3.464	<4.410	<4.410	<4.410	<5.510	<5.510	<5.510
VIII	Cast iron GG GGG	TB6045 GX30	RPM	407	407	611	318	318	477	254	254	382
			SFM	524	524	787	524	524	787	524	524	787
			IPM	192.1	288.0	43.3	200	300	45	200	300	45
			Feed per Tooth	.0787	.118	.0118	.0787	.118	.0118	.0787	.118	.0118
			Depth of Cut	.0787	.0787	.0118	.0787	.0787	.0118	.0787	.0787	.0118
			Width of Cut	<3.464	<3.464	<3.464	<4.410	<4.410	<4.410	<5.510	<5.510	<5.510
Maximum (Feed per Tooth)				<.1377			<.1377			<.1377		
Maximum Depth of Cut				<.118			<.118			<.118		

ASF

Recommended Cutting Condition

Work piece material	Work piece material	Insert material	Parameter	Dia. 10" (12 Flute)			Dia. 12" (14 Flute)		
									
				Roughing		Finishing	Roughing		Finishing
				Machine Power			Machine Power		
Week	Strong		Week	Strong					
I	Mild steel Carbon steel (<200HB) 1018 Hot/Cold Rolled	TB6045 CY 250= 80%SFM	RPM	267	267	400	219	219	328
			SFM	687	687	1031	687	687	1031
			IPM	188.8	314.9	56.7	180.8	301.5	54.3
			Feed per Tooth	.059	.0984	.0118	.059	.0984	.0118
			Depth of Cut	.059	.0787	.0118	.059	.0787	.0118
			Width of Cut	<6.890	<6.890	<6.890	<6.890	<6.890	<6.890
II	Carbon steel Alloy steel (<30HRC) P-20	TB6045 CY 250 = 80%SFM	RPM	213	213	305	175	175	251
			SFM	550	550	787	550	550	787
			IPM	151.1	252.1	43.3	144.7	241.4	41.4
			Feed per Tooth	.059	.0984	.0118	.059	.0984	.0118
			Depth of Cut	.059	.0787	.0118	.059	.0787	.0118
			Width of Cut	<6.890	<6.890	<6.890	<6.890	<6.890	<6.890
III	Carbon steel Alloy steel (30-40HRC) P-20 High Hard	TB6045 CY 250 = 80%SFM	RPM	203	203	305	167	167	251
			SFM	524	524	787	524	524	787
			IPM	144.0	192.1	43.3	137.9	183.9	41.4
			Feed per Tooth	.059	.0787	.0118	.059	.0787	.0118
			Depth of Cut	.059	.0787	.0118	.059	.0787	.0118
			Width of Cut	<6.890	<6.890	<6.890	<6.890	<6.890	<6.890
III	Carbon steel Alloy steel (40-45HRC) 4140	TB6045 CY 250= 80%SFM	RPM	127	127	191	105	105	157
			SFM	328	328	492	328	328	492
			IPM	48	90	27	46.1	86.3	25.9
			Feed per Tooth	.0315	.059	.0118	.0315	.059	.0118
			Depth of Cut	.059	.059	.0118	.059	.059	.0118
			Width of Cut	<6.890	<6.890	<6.890	<6.890	<6.890	<6.890
IV	Carbon steel Alloy steel (45-50HRC) D-2	TB6045 CY 250= 80%SFM	RPM	114	114	153	94	94	125
			SFM	295	295	393	295	295	393
			IPM	16	27	14	15.5	25.8	13.7
			Feed per Tooth	.0118	.0196	.0078	.0118	.0196	.0078
			Depth of Cut	.059	.059	.0118	.059	.059	.0118
			Width of Cut	<6.890	<6.890	<6.890	<6.890	<6.890	<6.890
VI	Stainless steel	TB6045 GX30	RPM	114	114	153	94	94	125
			SFM	295	295	393	295	295	393
			IPM	54	81	22	51.7	77.6	20.7
			Feed per Tooth	.0393	.059	.0118	.0393	.059	.0118
			Depth of Cut	.059	.059	.0118	.059	.059	.0118
			Width of Cut	<6.890	<6.890	<6.890	<6.890	<6.890	<6.890
VIII	Cast iron GG GGG	TB6045 GX30	RPM	203	203	305	167	167	251
			SFM	524	524	787	524	524	787
			IPM	192	288	43	183.9	275.8	41.4
			Feed per Tooth	.0787	.118	.0118	.0787	.118	.0118
			Depth of Cut	.0787	.0787	.0118	.0787	.0787	.0118
			Width of Cut	<6.890	<6.890	<6.890	<6.890	<6.890	<6.890
Maximum (Feed per Tooth)			<.1377			<.1377			
Maximum Depth of Cut			<.118			<.118			