





ARB

Recommended Cutting Condition

Work piece material	Work piece material	Insert material	Parameter	Dia. 2" (4 Flute)		Dia. 2 1/2" (4 Flute)		Dia. 3" (5 Flute)		Dia. 4" (6 Flute)	
				Roughing 12mm Insert		Roughing 12mm Insert		Roughing 12mm Insert		Roughing 12mm Insert	
		Light	Heavy	Light	Heavy	Light	Heavy	Light	Heavy	Light	Heavy
I	Mild steel Carbon steel (<200HB) 12L14 1018	CY 250	RPM	1,433	1,433	1,155	1,155	912	912	729	729
			SFM	750	750	750	750	750	750	750	750
			IPM	177.6	292.2	143.3	235.7	141.4	232.7	135.6	223.1
			Feed per Tooth	0.031	0.051	0.031	0.051	0.031	0.051	0.031	0.051
			Depth of Cut	.08	0.06	.08	0.06	.08	0.06	.08	0.06
Favorable Width of Cut			1.00	1.00	1.25	1.25	1.50	1.50	2.00	2.00	
II	Carbon steel Alloy steel (<30HRC) P-20	CY 250	RPM	1,146	1,146	924	924	730	730	583	583
			SFM	600	600	600	600	600	600	600	600
			IPM	142.1	229.2	114.6	184.8	113.1	182.5	108.5	175.0
			Feed per Tooth	.031	.05	.031	.05	.031	.05	.031	.05
			Depth of Cut	.08	.06	.08	.06	.08	0.06	.08	0.06
Favorable Width of Cut			1.00	1.00	1.25	1.25	1.50	1.50	2.00	2.00	
III	Carbon steel Alloy steel (30-40HRC) P-20 High Hard	CY 250	RPM	993	993	801	801	633	633	505	505
			SFM	520	520	520	520	520	520	520	520
			IPM	87.4	139.0	70.5	112.1	69.6	110.7	66.7	106.1
			Feed per Tooth	.022	.035	.022	.035	.022	.035	.022	.035
			Depth of Cut	.06	.04	.06	.04	.06	.04	.06	.04
Favorable Width of Cut			1.00	1.00	1.25	1.25	1.50	1.50	2.00	2.00	
III	Carbon steel Alloy steel (40-45HRC) 4140	CY 250	RPM	907	907	732	732	578	578	462	462
			SFM	475	475	475	475	475	475	475	475
			IPM	65.3	101.6	52.7	81.9	52.0	80.9	49.9	77.6
			Feed per Tooth	.018	.028	.018	.028	.018	.028	.018	.028
			Depth of Cut	.04	.03	.04	.03	.04	.03	.04	.03
Favorable Width of Cut			1.00	1.00	1.25	1.25	1.50	1.50	2.00	2.00	
IV	Carbon steel Alloy steel (45-50HRC) D-2	CY 250	RPM	678	678	547	547	432	432	345	345
			SFM	355	355	355	355	355	355	355	355
			IPM	38.0	54.2	30.6	43.7	30.2	43.2	29.0	41.4
			Feed per Tooth	.014	.02	.014	.02	.014	.02	.014	.02
			Depth of Cut	.03	.02	.03	.02	.03	.02	.03	.02
Favorable Width of Cut			1.00	1.00	1.25	1.25	1.50	1.50	2.00	2.00	
IV	Carbon steel Alloy steel (50-60HRC) Hardened Tool Steel	CY 250	RPM	525	525	424	424	335	335	267	267
			SFM	275	275	275	275	275	275	275	275
			IPM	21.0	31.5	16.9	25.4	16.7	25.1	16.0	24.1
			Feed per Tooth	.01	.015	.01	.015	.01	.015	.01	.015
			Depth of Cut	.02	.02	.02	.02	.02	.02	.02	.02
Favorable Width of Cut			1.00	1.00	1.25	1.25	1.50	1.50	2.00	2.00	
VI	Stainless steel	CY 250 GF 30 TB6045	RPM	1,165	1,165	940	940	742	742	593	593
			SFM	610	610	610	610	610	610	610	610
			IPM	139.8	209.7	112.8	169.1	111.3	167.0	106.7	160.1
			Feed per Tooth	.03	.045	.03	.045	.03	.045	.03	.045
			Depth of Cut	.06	.05	.06	.05	.06	.05	.06	.05
Favorable Width of Cut			1.00	1.00	1.25	1.25	1.50	1.50	2.00	2.00	
VIII	Cast iron GG GGG	CY 250 CY 150	RPM	1,079	1,079	870	870	687	687	549	549
			SFM	565	565	565	565	565	565	565	565
			IPM	172.7	259.0	139.2	208.9	137.5	206.2	131.8	197.7
			Feed per Tooth	.04	.06	.04	.06	.04	.06	.04	.06
			Depth of Cut	.08	.06	.08	.06	.08	.06	.08	.06
Favorable Width of Cut			1.00	1.00	1.25	1.25	1.50	1.50	2.00	2.00	
Maximum Depth of Cut				0.15		0.15		0.15		0.15	





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Recommended Cutting Condition

Work piece material	Work piece material	Insert material	Parameter	Dia. 2 1/2" (3 Flute)		Dia. 3" (4 Flute)		Dia. 4" (5 Flute)		Dia. 5" (6 Flute)	
											
				Roughing 16mm Insert		Roughing 16mm Insert		Roughing 16mm Insert		Roughing 16mm Insert	
		Light	Heavy	Light	Heavy	Light	Heavy	Light	Heavy	Light	Heavy
I	Mild steel Carbon steel (<200HB) 12L14 1018	CY 250	RPM	1,155	1,155	912	912	729	729	582	582
			SFM	750	750	750	750	750	750	750	750
			IPM	107.4	176.8	113.1	186.1	113.0	185.9	108.3	178.2
			Feed per Tooth	0.031	0.051	0.031	0.051	0.031	0.051	0.031	0.051
			Depth of Cut	0.10	0.08	0.10	0.08	0.10	0.08	0.10	0.08
			Favorable Width of Cut	1.25	1.25	1.50	1.50	2.00	2.00	2.50	2.50
II	Carbon steel Alloy steel (<30HRC) P-20	CY 250	RPM	924	924	730	730	583	583	466	466
			SFM	600	600	600	600	600	600	600	600
			IPM	86.0	138.6	90.5	146.0	90.4	145.8	86.6	139.8
			Feed per Tooth	.031	.05	.031	.05	.031	.05	.031	.05
			Depth of Cut	.1	.08	0.10	0.08	0.10	0.08	0.10	0.08
			Favorable Width of Cut	1.25	1.25	1.50	1.50	2.00	2.00	2.50	2.50
III	Carbon steel Alloy steel (30-40HRC) P-20 High Hard	CY 250	RPM	801	801	633	633	505	505	404	404
			SFM	520	520	520	520	520	520	520	520
			IPM	52.9	84.1	55.7	88.6	55.6	88.5	53.3	84.8
			Feed per Tooth	.022	.035	.022	.035	.022	.035	.022	.035
			Depth of Cut	.08	.06	.08	.06	.08	.06	.08	.06
			Favorable Width of Cut	1.25	1.25	1.50	1.50	2.00	2.00	2.50	2.50
III	Carbon steel Alloy steel (40-45HRC) 4140	CY 250	RPM	732	732	578	578	462	462	369	369
			SFM	475	475	475	475	475	475	475	475
			IPM	39.5	61.5	41.6	64.7	41.6	64.6	39.8	62.0
			Feed per Tooth	.018	.028	.018	.028	.018	.028	.018	.028
			Depth of Cut	.06	.05	.06	.05	.06	.05	.06	.05
			Favorable Width of Cut	1.25	1.25	1.50	1.50	2.00	2.00	2.50	2.50
IV	Carbon steel Alloy steel (45-50HRC) D-2	CY 250	RPM	547	547	432	432	345	345	276	276
			SFM	355	355	355	355	355	355	355	355
			IPM	23.0	32.8	24.2	34.6	24.2	34.5	23.2	33.1
			Feed per Tooth	.014	.02	.014	.02	.014	.02	.014	.02
			Depth of Cut	.04	.035	.04	.035	.04	.035	.04	.035
			Favorable Width of Cut	1.25	1.25	1.50	1.50	2.00	2.00	2.50	2.50
IV	Carbon steel Alloy steel (50-60HRC) Hardened Tool Steel	CY 250	RPM	424	424	335	335	267	267	214	214
			SFM	275	275	275	275	275	275	275	275
			IPM	25.4	31.8	26.8	33.5	26.7	33.4	25.6	32.0
			Feed per Tooth	.02	.025	.02	.025	.02	.025	.02	.025
			Depth of Cut	.04	.035	.04	.035	.04	.035	.04	.035
			Favorable Width of Cut	1.25	1.25	1.50	1.50	2.00	2.00	2.50	2.50
VI	Stainless steel	CY 250 GF30 TB6045	RPM	940	940	742	742	593	593	474	474
			SFM	610	610	610	610	610	610	610	610
			IPM	84.6	126.8	89.1	133.6	88.9	133.4	85.3	127.9
			Feed per Tooth	.03	.045	.03	.045	.03	.045	.03	.045
			Depth of Cut	.08	.05	.08	.05	.08	.05	.08	.05
			Favorable Width of Cut	1.25	1.25	1.50	1.50	2.00	2.00	2.50	2.50
VIII	Cast iron GG GGG	CY 250 CY 150	RPM	909	909	718	718	573	573	458	458
			SFM	590	590	590	590	590	590	590	590
			IPM	109.1	163.6	114.8	172.3	114.7	172.0	109.9	164.9
			Feed per Tooth	.04	.06	.04	.06	.04	.06	.04	.06
			Depth of Cut	.1	.08	.08	.06	.08	.06	.08	.06
			Favorable Width of Cut	1.25	1.25	1.50	1.50	2.00	2.00	2.50	2.50
Maximum Depth of Cut				0.25		0.25		0.25		0.25	

ARB

Recommended Cutting Condition

Work piece material	Work piece material	Insert material	Parameter	Dia. 6" (8 Flute)		Dia. 1" (2 Flute)		Dia. 1 1/4" (2 Flute)		Dia. 1 1/2" (3 Flute)	
											
				Roughing 16mm Insert		Roughing 12mm Insert		Roughing 12mm Insert		Roughing 12mm Insert	
		Light	Heavy	Light	Heavy	Light	Heavy	Light	Heavy	Light	Heavy
I	Mild steel Carbon steel (<200HB) 12L14 1018	CY 250	RPM	478	478	2,865	2,865	2,292	2,292	1,910	1,910
			SFM	750	750	750	750	750	750	750	750
			IPM	44.4	73.1	114.6	177.6	91.7	142.1	114.6	177.6
			Feed per Tooth	0.031	0.051	0.020	0.031	0.020	0.031	0.020	0.031
			Depth of Cut	0.10	0.08	0.05	0.035	0.05	0.035	0.05	0.035
Favorable Width of Cut			3.00	3.00	0.50	0.50	0.63	0.63	0.75	0.75	
II	Carbon steel Alloy steel (<30HRC) P-20	CY 250	RPM	382	382	2,292	2,292	1,834	1,834	1,528	1,528
			SFM	600	600	600	600	600	600	600	600
			IPM	35.5	57.3	91.7	142.1	73.3	113.7	91.7	142.1
			Feed per Tooth	.031	.05	.02	.031	.02	.031	.02	.031
			Depth of Cut	.1	.08	0.05	0.035	0.05	0.035	0.05	0.035
Favorable Width of Cut			3.00	3.00	0.50	0.50	0.63	0.63	0.75	0.75	
III	Carbon steel Alloy steel (30-40HRC) P-20 High Hard	CY 250	RPM	331	331	1,986	1,986	1,589	1,589	1,324	1,324
			SFM	520	520	520	520	520	520	520	520
			IPM	21.9	34.8	87.4	139.0	69.9	111.2	87.4	139.0
			Feed per Tooth	.022	.035	.022	.035	.022	.035	.022	.035
			Depth of Cut	.08	.06	0.05	0.035	0.05	0.035	0.05	0.035
Favorable Width of Cut			3.00	3.00	0.50	0.50	0.63	0.63	0.75	0.75	
III	Carbon steel Alloy steel (40-45HRC) 4140	CY 250	RPM	302	302	1,815	1,815	1,452	1,452	1,210	1,210
			SFM	475	475	475	475	475	475	475	475
			IPM	16.3	25.4	42.8	79.8	34.3	63.9	42.8	79.8
			Feed per Tooth	.018	.028	.0118	.022	.0118	.022	.0118	.022
			Depth of Cut	.06	.05	0.05	0.035	0.05	0.035	0.05	0.035
Favorable Width of Cut			3.00	3.00	0.50	0.50	0.63	0.63	0.75	0.75	
IV	Carbon steel Alloy steel (45-50HRC) D-2	CY 250	RPM	226	226	1,356	1,356	1,085	1,085	904	904
			SFM	355	355	355	355	355	355	355	355
			IPM	9.5	13.6	21.7	40.7	17.4	32.5	21.7	40.7
			Feed per Tooth	.014	.02	.008	.015	.008	.015	.008	.015
			Depth of Cut	.04	.035	0.04	0.035	.04	.035	.04	.035
Favorable Width of Cut			3.00	3.00	0.50	0.50	0.63	0.63	0.75	0.75	
IV	Carbon steel Alloy steel (50-60HRC) Hardened Tool Steel	CY 250	RPM	175	175	1,051	1,051	840	840	700	700
			SFM	275	275	275	275	275	275	275	275
			IPM	10.5	13.1	10.5	21.0	8.4	16.8	10.5	21.0
			Feed per Tooth	.02	.025	.005	.01	.005	.01	.005	.01
			Depth of Cut	.04	.035	.04	.035	.04	.035	.04	.035
Favorable Width of Cut			3.00	3.00	0.50	0.50	0.63	0.63	0.75	0.75	
VI	Stainless steel GF 30 TB6045	CY 250	RPM	388	388	2,330	2,330	1,864	1,864	1,719	1,719
			SFM	610	610	610	610	610	610	610	610
			IPM	35.0	52.4	60.6	102.5	48.5	82.0	67.0	113.5
			Feed per Tooth	.03	.045	.013	.022	.013	.022	.013	.022
			Depth of Cut	.08	.05	0.05	0.035	0.05	0.035	0.05	0.035
Favorable Width of Cut			3.00	3.00	0.50	0.50	0.63	0.63	0.75	0.75	
VIII	Cast iron GG GGG	CY 250 CY 150	RPM	376	376	2,158	2,158	1,727	1,727	1,439	1,439
			SFM	590	590	565	565	565	565	565	565
			IPM	45.1	67.6	86.3	138.1	69.1	110.5	86.3	138.1
			Feed per Tooth	.04	.06	.02	.032	.02	.032	.02	.032
			Depth of Cut	.1	.08	0.05	0.035	0.05	0.035	0.05	0.035
Favorable Width of Cut			3.00	3.00	0.50	0.50	0.63	0.63	0.75	0.75	
Maximum Depth of Cut				0.25		0.15		0.15		0.15	