

RECOMMENDED SPEEDS & CUTTING RATES

SI-CLONE BLADE

Stock Dimensions Tooth Pitch	Up to 1" 10-14, 8-12		From 1" to 3" 8-12, 6-10, 5-8		From 3" to 6" 5-8, 4-6, 3-4		Over 6" 3-4, 2-3, 1.5-1.9, 1.1-1.4, .8-1.0	
	Blade Speed (SFPM)	Cutting Rate (SIPM)	Blade Speed (SFPM)	Cutting Rate (SFPM)	Blade Speed (SFPM)	Cutting Rate (SIPM)	Blade Speed (SFPM)	Cutting Rate (SIPM)
Carbon Steels:								
1008-1013	290	9 - 11	320	10 - 13	320	13 - 17	290	10 - 13
1015-1018	290	9 - 11	320	10 - 13	290	13 - 17	265	10 - 13
1045-1065	230	6 - 8	230	6 - 8	200	9 - 11	175	7 - 9
1065-1095	230	4 - 7	230	6 - 8	175	7 - 9	140	7 - 9
Free Machining Steels:								
1108-1111	345	10 - 12	380	13 - 15	320	14 - 17	255	12 - 15
1112-1113	345	9 - 12	380	12 - 14	320	13 - 17	255	13 - 17
1115-1132	345	8 - 11	380	11 - 14	320	14 - 18	255	12 - 15
1137-1151	320	7 - 9	290	9 - 11	290	9 - 12	230	8 - 11
1212-1213	345	9 - 11	370	12 - 14	345	14 - 17	295	12 - 15
Manganese Steels:								
1320-1330	290	6 - 8	290	6 - 9	230	9 - 12	200	8 - 11
1335-1345	290	6 - 8	260	6 - 8	230	8 - 10	200	6 - 9
Nickel Steels:								
2317	310	4 - 6	310	4 - 7	290	6 - 8	265	4 - 7
2330-2345	255	2 - 3	255	3 - 6	220	3 - 6	200	3 - 6
2512-2517	230	2 - 3	230	3 - 6	185	4 - 7	175	4 - 7
Nickel Chrome Steels:								
3115-3130	300	4 - 7	300	6 - 8	265	6 - 8	260	6 - 8
3135-3150	255	4 - 7	230	4 - 8	210	7 - 9	175	6 - 9
3310-3315	230	3 - 4	210	4 - 6	210	6 - 8	185	4 - 7
Molybdenum Steels:								
4017-4024	345	3 - 6	310	4 - 8	290	7 - 9	255	6 - 9
4032-4042	345	3 - 6	310	4 - 8	290	7 - 9	265	6 - 9
4047-4068	290	3 - 6	255	4 - 7	230	6 - 8	210	3 - 6
Chrome Moly Steels:								
4130-4140	320	4 - 7	290	6 - 9	290	9 - 11	255	7 - 9
4142-4150	265	3 - 6	230	4 - 7	230	6 - 8	195	4 - 7
Nickel Chrome Moly Steels:								
4317-4320	290	3 - 6	260	4 - 7	230	6 - 8	195	4 - 7
4337-4340	265	3 - 4	230	4 - 6	230	4 - 7	195	4 - 6
8615-8627	290	4 - 6	265	7 - 8	265	7 - 9	230	7 - 8
8630-8645	290	3 - 6	265	4 - 7	265	6 - 8	210	4 - 7
8647-8660	255	2 - 4	230	3 - 6	230	4 - 7	175	3 - 6
8715-8750	290	3 - 6	255	4 - 7	255	6 - 8	210	4 - 7
9310-9317	230	1 - 3	185	2 - 3	185	2 - 4	175	2 - 3
9437-9445	290	4 - 6	265	4 - 6	265	6 - 7	210	4 - 6
9747-9763	290	2 - 4	265	3 - 6	230	4 - 7	210	3 - 6
9840-9850	275	4 - 6	255	4 - 7	230	6 - 8	210	4 - 7
Nickel Moly Steels:								
4608-4621	290	3 - 6	255	6 - 7	255	7 - 8	230	6 - 7
4640	255	3 - 6	230	4 - 7	230	6 - 8	195	4 - 7
4812-4820	230	3 - 6	210	3 - 6	210	4 - 7	185	4 - 6
Chrome Steels:								
5045-5046	320	4 - 7	290	6 - 8	290	9 - 11	230	8 - 9
5120-5135	320	4 - 7	290	7 - 8	275	8 - 9	210	6 - 9
5140-5160	290	3 - 6	265	4 - 7	265	6 - 8	230	4 - 7
50100-52100	210	2 - 4	185	3 - 6	175	4 - 7	115	3 - 6

RECOMMENDED SPEEDS & CUTTING RATES							SI-CLONE BLADE		
Stock Dimensions	Up to 1"		From 1" to 3"		From 3" to 6"		Over 6"		
Tooth Pitch	10-14, 8-12		8-12, 6-10, 5-8		5-8, 4-6, 3-4		3-4,2-3,1,5-1.9,1,1-1.4,8-1.0		
Material (Annealed)	Blade Speed (SFPM)	Cutting Rate (SIPM)	Blade Speed (SFPM)	Cutting Rate (SFPM)	Blade Speed (SFPM)	Cutting Rate (SIPM)	Blade Speed (SFPM)	Cutting Rate (SIPM)	
Die Steels:									
A-2,	240	2 - 3	230	3 - 4	220	3 - 4	210	2 - 3	
D-2, D-3	130	1 - 2	115	1 - 2	105	1 - 2	90	1 - 2	
D-7	105	1	90	1	80	1	80	1	
O-1, O-2	275	3 - 4	240	4 - 6	220	6 - 7	195	4 - 6	
O-6	265	3 - 4	230	4 - 7	210	6 - 8	175	4 - 7	
Hot Work Steels:									
H-12, H-13, H-21	175	2 - 4	145	3 - 6	145	2 - 4	145	2 - 4	
H-22, H-24, H-25	175	1 - 3	145	1 - 3	145	1 - 3	145	1 - 3	
Shock Resisting Tool Steels									
S-1	255	2 - 4	210	3 - 6	190	3 - 6	175	2 - 4	
S-2, S-5	195	1 - 3	175	2 - 4	140	2 - 4	115	1 - 3	
Special Purpose Tool Steels									
L-6	230	2 - 4	210	3 - 6	200	3 - 6	175	2 - 4	
L-7	230	2 - 4	210	3 - 6	175	3 - 6	115	2 - 4	
Stainless Steels:									
201, 202, 302, 304	140	2 - 4	115	2 - 4	115	2 - 4	115	1 - 3	
303, 303F	160	2 - 4	140	2 - 4	115	3 - 6	115	2 - 4	
308, 309, 310, 330	105	1	80	1	70	2	70	1	
314, 316, 317	105	1	90	1	80	2	70	1	
321, 347	150	1 - 3	130	1 - 3	115	2 - 4	90	1 - 3	
410, 420, 420F	175	1 - 3	150	1 - 3	140	2 - 4	115	1 - 3	
416,430F	230	3 - 6	210	4 - 7	200	6 - 8	175	4 - 7	
430, 446	115	1 - 3	105	2 - 4	90	2 - 4	90	1 - 3	
440 A,B,C	140	1 - 3	10	1 - 3	105	2 - 4	80	1 - 3	
440F, 443	175	1 - 3	150	1 - 3	140	2 - 4	115	1 - 3	
17-4PH, 17-7PH	115	2 - 3	105	2 - 4	90	3 - 4	90	2 - 3	
A-7	115	1 - 2	115	1 - 2	115	2 - 3	115	2 - 3	
Beryllium Copper #25									
BHN 100-120	405	4 - 7	345	6 - 8	315	7 - 9	260	6 - 8	
BHN 220-250	290	2 - 4	260	3 - 6	230	4 - 7	200	3 - 6	
BHN 310-340	230	1 - 2	185	1 - 2	160	2 - 3	115	1 - 2	
Nickel Base Alloys:									
Monel	115	1 - 2	115	1 - 2	90	1 - 2	70	1	
R Monel	115	2 - 3	115	2 - 4	100	2 - 4	100	2 - 3	
K Monel	115	1	90	1	70	1	70	1	
KR Monel	115	1 - 3	105	1 - 3	90	1 - 3	70	1 - 2	
Inconel	90	1 - 2	80	1 - 3	70	1 - 3	70	1 - 2	
Inconel X	80	1	70	1	65	1	65	1	
Hastelloy A	140	1 - 2	115	1 - 2	100	2 - 3	85	1 - 2	
Hastelloy B	130	0 - 1	115	1 - 2	105	1 - 2	85	0 - 1	
Hastelloy C	115	0 - 1	105	0 - 1	80	0 - 1	70	0 - 1	
Rene 41	105	1	105	1	105	1 - 2	105	1 - 2	
Udimit	115	1	105	1 - 2	105	1 - 2	105	1 - 2	
Waspalloy	105	1	105	1 - 2	105	1 - 2	105	1 - 2	
Titanium	115	1 - 2	115	2 - 3	115	2 - 3	115	2 - 3	
Titanium Alloys:									
TI-4AL-4MO Alpha Beta Alloy	115	0 - 1.1	105	0 - 1.1	90	0 - 1.1	80	0 - 1.1	
TI-140A 2CR-2MO	115	0 - 1.1	105	0 - 1.1	90	0 - 1.1	70	0 - 1.1	
TI-150A	115	0 - 1.1	105	0 - 1.1	90	0 - 1.1	70	0 - 1.1	
MST-6AL-4V	115	0 - 1.1	105	0 - 1.1	90	0 - 1.1	70	0 - 1.1	
99% Pure Titanium	115	0 - 1.1	105	0 - 1.1	90	0 - 1.1	70	0 - 1.1	