

<b>Countersink Speeds</b>				
Material	Grades	SFM		
		HSS	Cobalt	Carbide
<b>P - Steels</b>				
High Strength Tool Steel	A2, D2, P20, H11, H13, S2, 01	20-30	30-60	50-100
Low Carbon	A36, 12L14, 12L15, 1005, 1018, 1020, 1108-1119, 1213-1215, 1513-1518, 4012, 5015, 9310	60-90	70-100	125-300
Medium Carbon	1040-1095, 1140-1151, 1330-1345, 1520-1572, 4023-4063, 4120-4161, 4330-4340, 4620-4640, 8620-8660, 8740-8750, 6150, 51000, 52100	30-70	40-80	100-180
<b>M - Stainless Steels</b>				
Austenitic	301-304L, 310, 316L, 321, 347	20-50	30-60	100-300
Martensitic	403, 410, 416, 420, 430, 431, 440	30-70	35-75	50-100
Precipitation Hardening	12/8, 15/5, 17/4, AM-350/355/363, PH13-8MO, PH14-8/MO	15-50	25-70	50-100
<b>K - Cast Irons</b>				
Ductile	A536, J434, 60-40-18	30-70	40-80	75-180
Gray	A48, A436, A319, Class 20, G4000	60-90	70-100	150-225
Malleable	A220, A602, J158	80-120	85-120	100-180
<b>N - Non-Ferrous</b>				
Aluminum Alloys	2014, 2024, 6061, 7075	150-200	175-250	350-500
Aluminum High Silicon	A380, A390	125-170	130-175	300-425
Brass/Bronze	Aluminum Bronze, Low Silicon Bronze	100-300	100-300	200-400
Composites	G-10, Fiberglass, Graphite, Graphite Epoxy, Plastics	100-225	150-300	250-350
Copper		70-100	80-110	150-300
Magnesium		200-400	210-400	300-500
<b>S - High Temp Alloys</b>				
Cobalt Base	Stellite, HS-21, Haynes 25/188, X40, L605	15-30	20-40	60-80
Iron Base	Incoloy 800-802, Multmet N-155, Timkin 16-25-6, Carpenter 22-b3	15-30	20-40	60-80
Nickel Base	Inconel 625/718, Inco 700, 713C, 718, Monel 400-401, 404, K401, Rene, Rene 41 & 95 Hastelloy, Waspoley, Udimet 500 & 700	20-50	25-50	75-180
Titanium	Commercially Pure, 6Al-4V, ASTM 1/2/3, 6Al-25N-4Zr-2Mo-Si, Ti-8Al-1Mo, Ti-8Al-4Mo	20-50	30-60	30-100

**NOTE :** Speeds listed are estimated and will vary by application. These tools can be found on pages 318-321.