








Tool Selection Guide

Steel		<p>Free Machining & Low Carbon Steels - up to 28 HRC Examples: 1006, 1008, 1015, 1018, 1020, 1022, 1025, 1117, 1140, 1141, 11L08, 11L14, 1213, 12L13, 12L14, 1215, 1330</p> <p>Medium Carbon & High Carbon Steels, Alloy Steels & Easy to Machine Tool Steels - up to 38 HRC Examples: 1030, 1035, 1040, 1045, 1050, 1052, 1055, 1060, 1085, 1095, 1541, 1551, 9255, 2515, 3135, 3415, 4130, 4137, 4140, 4150, 4320, 4340, 4520, 5015, 5115, 5120, 5132, 5140, 5155, 6150, 8620, 9262, 9840, 52100, O1, O2, O6, S2, W1 to W310</p>
Stainless Steel		<p>Stainless Steel - Easy to Machine up to 28 HRC Examples: 430F, 301, 303, 410, 416 Annealed, 420F, 430, 430F</p> <p>Stainless Steel - Moderately Difficult up to 28 HRC Examples: 301, 302, 303 High Tensile, 304, 304L, 305, 420, 15-5PH, 17-4PH, 17-7PH</p> <p>Stainless Steel - Difficult to Machine over 28 HRC Examples: 302B, 304B, 309, 310, 316, 316B, 316L, 316Ti, 317, 317L, 321, PH13-8MO, Nitronic</p>
Tool Steel & High Tensile Steels		<p>Tool Steels & Die Steels up to 44 HRC Examples: O7, M1, M2, M3, M4, M7, T1, T2, T4, T5, T8, T15, A2, A3, A6, A7, H10, H11, H12, H13, H19, H21, L3, L6, L7, P2, P20, S1, S5, S7, 52100, A 128, D2, D3, D4, D5, D7</p> <p>Hardened Steels up to 54 HRC Examples: Carbon and Alloy Steels, Tool & Die Steels</p> <p>Hardened Steels up to 60 HRC Examples: Carbon and Alloy Steels, Tool & Die Steels</p>
Cast Iron		<p>Cast Iron - Gray CG up to 180 HB 30 Examples: ASTM A48, CLASS 20, 25, 30, 35, SAE J431C, GRADES G1800, G3000, G3500, GG 10, 15, 20, 25, 30, 35, 40</p> <p>Cast Iron - Ductile & Malleable CGI above 180 HB 30 Examples: 60-40-18, 65-45-12, D4018, D4512, D5506, 32510, 35108, M3210, M4504, M5503, 250, 300, 350, 400, 450</p>
Aluminum		<p>Aluminum, Al-wrought alloys, Al-alloys Examples: 2024, 6061, 7075, 1050, 6351, 5005, 2017, 7075</p> <p>Aluminum-cast alloys Examples: High Silicon - A380, A390, Castings, 3.2131 G-AISI5Cu1, 3.2153 G-AISI7Cu3, 3.2573 G-AISI9, 3.2581 G-AISI12, 3.2583 G-AISI12Cu, - G-AISI12CuNiMg</p>
Titanium & Nickel Alloys		<p>High-Temperature Alloys Examples: Nimonic, Inconel, Monel, Hastelloy</p> <p>Titanium Alloys Examples: 6Al-4V, 5Al-2.5 Sn, 6Al-2Sn-4Zr-6Mo, 3Al-8V-6Cr4Mo-4Zr, 10V-2Fe-3Al, 13V-11Cr-3Al</p>
Hardened Materials		<p>Hardened Steels up to 54 HRC Examples: Carbon and Alloy Steels, Tool & Die Steels</p> <p>Hardened Steels up to 60 HRC Examples: Carbon and Alloy Steels, Tool & Die Steels</p>