ISO	Material Group	Workpiece Material	Brinell Hardness HB	Rockwell Hardness HRC	Tensile Strength MPa	Recommended Starting Speeds v_c (ft/min)								
						GA4230			GM2140					
						f_z (inch)			f_z (inch)					
						.004	.008	.012	.004	.008	.012			
P Steel	P0	Low-Carbon Steels, Long Chipping (C < .25%) Ex. A36, 1008, 1010, 1018, 1108, 1117	<125		<530	920	810	640						
	P1	Low-Carbon Steels, Short Chipping, Free Machining (C < .25%) Ex. 10L18, 1200 Series, 1213, 12L14	<125		<530	820	720	570						
	P2	Medium- and High-Carbon Steels (C > .25%) Ex. 1035, 1045, 10L45, 1080, 1137, 1144, 1525, 1572	<220	<25	>530	700	600	480						
	P3	Alloy Steels and Tool Steels (C > .25%) Ex. P20, 1300, 2000, 3000, 4000, 5000, 8000, SAE A, D, H, O, S, M, T	<330	<35	600-850	630	530	430						
	P4	High-Strength Alloy Steels and Tool Steels (C > .25%) Ex. P20, 1300, 2000, 3000, 4000, 5000, 8000, SAE A, D, H, O, S, M, T	340-450	35-48	850-1400	570	470	380						
	P5	Ferritic, Martensitic and PH Stainless Steels Ex. 13-8 PH, 15-5 PH, 17-4 PH, 400 and 500 Series	<330	<35	600-900	500	420	340	590	490	390			
	P6	High-Strength Ferritic, Martensitic and PH Stainless Steels Ex. 13-8 PH, 15-5 PH, 17-4 PH, 400 and 500 Series	340-450	35-48	900-1350	420	350	290	500	420	340			

ISO	Material Group	Workpiece Material	Brinell Hardness HB	Rockwell Hardness HRC	Tensile Strength MPa	Recommended Starting Speeds v_c (ft/min)								
						GA4230			GS4130			GM2140		
						f_z (inch)			f_z (inch)			f_z (inch)		
						.004	.008	.012	.004	.008	.012	.004	.008	.012
M Stainless Steel	M1	Austenitic Stainless Steels Ex. 200 Series, 301, 302, 304, 304L, 309	130-200		<600	540	450	360	540	450	360	630	530	430
	M2	High-Strength Austenitic Stainless and Cast Stainless Steels Ex. 310, 316, 316L, 321, 347, 384	150-230	<25	600-800	500	420	340	500	420	340	590	490	390
	M3	Duplex Stainless Steels Ex. 323, 329, F55, 2205	135-275	<30	<800	420	350	290	420	350	290	500	420	340

ISO	Material Group	Workpiece Material	Brinell Hardness HB	Rockwell Hardness HRC	Tensile Strength MPa	Recommended Starting Speeds v_c (ft/min)								
						GA4230								
						f_z (inch)								
						.004	.008	.012						
K Cast Iron	K1	Gray Cast Iron Ex. Class 20, 25, 30, 35, 40, 45, 50, 55, 60, G1800, G3000, G3500, G4000	120-290	<32	125-500	755	675	585						
	K2	Ductile Cast Irons (Nodular Irons) and Compacted Graphite Irons (CGI) Ex. 60-40-18, 65-45-12, 80-55-06, SAE J434: D4018, D4512, D5506	130-260	<28	<600	590	525	460						
	K3	High-Strength Ductile Irons and Austempered Ductile Irons (ADI) Ex. ASTM A536: 100-70-03, 120-90-02, SAE J434: D7003	180-350	<43	>600	520	445	395						

ISO	Material Group	Workpiece Material	Brinell Hardness HB	Rockwell Hardness HRC	Tensile Strength MPa	Recommended Starting Speeds v_c (ft/min)								
						GN9125								
						f_z (inch)								
						.004	.008	.012						
N Non-Ferrous	N1	Wrought Aluminum Ex. 1000, 2017, 2025, 5050, 7050	60-90		<520	3050	2650	1830						
	N2	Low-Silicon Aluminum Alloys (Si < 12.2%) Ex. 2024, 6061, 7075	70-100		<350	2760	2350	1640						
	N3	High-Silicon Aluminum Alloys (Si > 12.2%)	60-120		200-320	1090	920	650						
	N4	Copper and Copper Alloys Ex. C81500	60-200		200-650	1320	1080	790						

ISO	Material Group	Workpiece Material	Brinell Hardness HB	Rockwell Hardness HRC	Tensile Strength MPa	Recommended Starting Speeds v_c (ft/min)								
						GA4230			GS4130			GM2140		
						f_z (inch)			f_z (inch)			f_z (inch)		
						.004	.008	.012	.004	.008	.012	.004	.008	.012
S High Temp Alloys	S1	Iron-Based Heat-Resistant Alloys Ex. A286, A608, INCOLOY 800 Series, N-155, Haynes 556, Discaloy	200-280	<30	600-1000	230	160	110	230	160	110	255	175	120
	S2	Cobalt-Based Heat-Resistant Alloys Ex. Haynes 25 (L605), Haynes 188, Stellite, MAR-M302, MAR-M509	250-350	<35	800-1200	200	130	90	200	130	90	220	145	100
	S3	Nickel-Based Heat-Resistant Alloys Ex. Astroloy, Hastelloy X, INCONEL 600 and 700 Series, Waspalloy	250-350	<35	800-1200	200	130	90	200	130	90	220	145	100
	S4	Titanium and Titanium Alloys Ex. Commercially Pure Ti, Ti-5Al-2.5Sn, Ti-6Al-4V, Ti-3Al-8V-6Cr-4Zr-4Mo	300-400	33-48	900-1600	220	145	100	220	145	100	240	160	110