

MATERIAL	SFM	Hardness: ≤ 28 Rc (≤ 271 HBn)								
		Chip Load (IPR - Inches Per Revolution) By Cutter Diameter								
		0.015	0.031	0.047	0.062	0.078	0.093	0.125	0.187	0.250
<b>ALUMINUM ALLOYS</b>										
Casting (2xx, 5xx, 7xx, 8xx)	450									
Wrought (1xxx, 2xxx, 3xxx, 5xxx, 6xxx, 7xxx, 8xxx)	600	.00041	.00084	.00127	.00167	.00211	.00251	.00338	.00505	.00675
Casting - 3%-5% Si (3xx, A3xx, C3xx, 4xx, A4xx, B4xx)	450									
Casting - 5%-8% Si (3xx, A3xx, C3xx, 4xx, A4xx, B4xx)	420									
Casting - 8%-12% Si (3xx, A3xx, C3xx, 4xx, A4xx, B4xx)	390	.00036	.00075	.00114	.00151	.00190	.00226	.00304	.00454	.00608
Casting - 12%-16% Si (3xx, A3xx, C3xx, 4xx, A4xx, B4xx)	350									
Wrought - 5%-8% Si (4xxx)	600									
Wrought - 8%-12% Si (4xxx)	480									
<b>MAGNESIUM ALLOYS</b>	900	.00041	.00084	.00127	.00167	.00211	.00251	.00338	.00505	.00675
<b>ZINC ALLOYS</b>	480									
<b>COPPER ALLOYS</b>										
High Coppers - 90%+ (C1xxx)	170									
Brass (Copper Zinc alloys, C2xxx, C3xxx, C4xxx, C66400-C69800)	375									
Phosphor Bronzes (Copper Tin alloys, C5xxx)	170									
Aluminum Bronzes (Copper Aluminum alloys, C60600-C64200)	375	.00032	.00067	.00102	.00134	.00168	.00201	.00270	.00404	.00540
Silicon Bronzes (Copper Silicon alloys, C64700-C66100)	375									
Copper Nickels, Nickel Silvers (Copper Nickel alloys, C7xxx)	170									
Cast Copper Alloys (C83300-C86200, C86400-C87900, C92200-C95800, C97300-C97800, C99400-C99700)	400									



Speeds & Feeds

Product Table: Combined Drills and Countersinks  
Series: 110xx, 179xx, 256xx, 8225xx, 8495xx,

Please note:

All posted speed and feed parameters are suggested starting values that may be increased given optimal setup conditions. Chip loads reflect uncoated cutters and may be increased 10%-20% if coated.

If you require additional information, Harvey Tool has a team of technical experts available to assist you through even the most challenging applications. Please contact us at **800-645-5609** or **Harveytech@harveyperformance.com**.

WARNING: Cutting tools may shatter under improper use. Government regulations require use of safety glasses and other appropriate safety equipment in the vicinity of use.

MATERIAL	SFM	Hardness: 29-37 Rc (279-344 HBn)								
		Chip Load (IPR - Inches Per Revolution) By Cutter Diameter								
		0.015	0.031	0.047	0.062	0.078	0.093	0.125	0.187	0.250
<b>CARBON STEELS</b>										
Free-Machining/Low Carbon steels, 10xx - 1029 & all 10Lxx, 11xx - 1139 & all 11Lxx, 12xx - 1215 & all 12Lxx	240	.00035	.00073	.00111	.00146	.00184	.00220	.00295	.00442	.00591
1030 - 1095, 1140 - 1151, 13xx, 15xx, 2xxx, 3xxx, 4xxx & 4xLxx, 5xxx & 5xLxx, 50xxx & 50Lxxx, 51xxx & 51Lxxx, 52xxx & 52Lxxx, 6xxx, 8xxx, 9xxx	150	.00032	.00067	.00102	.00134	.00168	.00201	.00270	.00404	.00540
<b>STAINLESS STEELS</b>										
203 EZ, 303 (all types), 416, 416Se, 416 Plus X, 420F, 420FSe, 430F, 430FSe, 440F, 440FSe	180	.00035	.00073	.00111	.00146	.00184	.00220	.00295	.00442	.00591
201, 202, 203, 205, 301, 302, 304, 304L, 308, 309, 310, 314, 316, 316L, 317, 321, 329, 330, 347, 348, 385, 403, 405, 409, 410, 413, 420, 429, 430, 434, 436, 442, 446, 501, 502	150	.00032	.00067	.00102	.00134	.00168	.00201	.00270	.00404	.00540
414, 431, 440A, 440B, 440C, 13-8, 15-5, 15-7, 17-4, 17-7	125	.00020	.00042	.00063	.00084	.00105	.00126	.00169	.00252	.00338
<b>TOOL STEELS</b>										
A, L, O, P, W series	125	.00032	.00067	.00102	.00134	.00168	.00201	.00270	.00404	.00540
D, H, M, T, S series	90	.00020	.00042	.00063	.00084	.00105	.00126	.00169	.00252	.00338
<b>TITANIUM ALLOYS</b>	100	.00020	.00042	.00063	.00084	.00105	.00126	.00169	.00252	.00338
<b>HIGH TEMP ALLOYS</b>										
Inconel, Hastelloy, Waspalloy, Monel, Nimonic, Haynes, Discoloy, Incoloy	70	.00020	.00042	.00063	.00084	.00105	.00126	.00169	.00252	.00338

MATERIAL	SFM	Hardness: 38-45 Rc (353-421 HBn)								
		Chip Load (IPR - Inches Per Revolution) By Cutter Diameter								
		0.015	0.031	0.047	0.062	0.078	0.093	0.125	0.187	0.250
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
100	.00022	.00045	.00068	.00089	.00112	.00134	.00180	.00269	.00360	
90	.00014	.00028	.00042	.00056	.00070	.00084	.00113	.00168	.00225	
100	.00022	.00045	.00068	.00089	.00112	.00134	.00180	.00269	.00360	
75	.00014	.00028	.00042	.00056	.00070	.00084	.00113	.00168	.00225	
75	.00014	.00028	.00042	.00056	.00070	.00084	.00113	.00168	.00225	
50	.00014	.00028	.00042	.00056	.00070	.00084	.00113	.00168	.00225	