

MATERIAL	SFM	Hardness: ≤ 28 Rc (≤ 271 HBn)													
		Chip Load (IPT) By Drill Diameter													
		.031	.047	.062	.078	.093	.125	.187	.250	.312	.375	.437	.500	.625	.750
ALUMINUM ALLOYS															
Casting (2xx, 5xx, 7xx, 8xx)	750	.00029	.00036	.00043	.00058	.00087	.00117	.00146	.00175	.00204	.00234	.00292	.00351	.00409	.00468
Wrought (1xxx, 2xxx, 3xxx, 5xxx, 6xxx, 7xxx, 8xxx)	1000														
Casting - 3%-5% Si (3xx, A3xx, C3xx, 4xx, A4xx, B4xx)	750														
Casting - 5%-8% Si (3xx, A3xx, C3xx, 4xx, A4xx, B4xx)	700														
Casting - 8%-12% Si (3xx, A3xx, C3xx, 4xx, A4xx, B4xx)	650	.00026	.00033	.00039	.00053	.00079	.00105	.00131	.00158	.00184	.00210	.00263	.00316	.00368	.00421
Casting - 12%-16% Si (3xx, A3xx, C3xx, 4xx, A4xx, B4xx)	475														
Wrought - 5%-8% Si (4xxx)	1000														
Wrought - 8%-12% Si (4xxx)	800														
MAGNESIUM ALLOYS	1500	.00029	.00036	.00043	.00058	.00087	.00117	.00146	.00175	.00204	.00234	.00292	.00351	.00409	.00468
ZINC ALLOYS	800														
COPPER ALLOYS															
High Coppers - 90%+ (C1xxxx)	225														
Brass (Copper Zinc alloys, C2xxx, C3xxx, C4xxx, C6400-C69800)	500														
Phosphor Bronzes (Copper Tin alloys, C5xxx)	225														
Aluminum Bronzes (Copper Aluminum alloys, C60600-C6200)	500	.00023	.00029	.00035	.00047	.00070	.00094	.00117	.00140	.00163	.00187	.00234	.00281	.00327	.00374
Silicon Bronzes (Copper Silicon alloys, C64700-C66100)	500														
Copper Nickels, Nickel Silvers (Copper Nickel alloys, C7xxxx)	225														
Cast Copper Alloys (C83300-C86200, C86400-C87900, C92200-C95800, C97300-C97800, C99400-C99700)	550														



Speeds & Feeds

Product Table: Combination Drill/Counterbore - For Socket Head Cap Screws
Characteristics: 2 Flute, 5x Drill Length
Series: 7000xx

Product Notes:

Intended use with no pilot hole, may require a peck cycle for proper chip evacuation
 For Ferrous materials, pecking to a depth of 2x drill diameter is advised
 For Non-Ferrous materials, pecking to a depth of 3x drill diameter is advised

General Notes:

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. For ferrous materials with hardness ≤ 28 Rc, chip loads can be increased 10%-20%.

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 (IPT) By Drill Diameter													
		.031	.047	.062	.078	.093	.125	.187	.250	.312	.375	.437	.500	.625	.750
CARBON STEELS															
Free-Machining/Low Carbon steels, 10xx - 1029 & all 10Lxx, 11xx - 1139 & all 11Lxx, 12xx - 1215 & all 12Lxx	600	.00010	.00013	.00015	.00020	.00030	.00040	.00050	.00060	.00070	.00080	.00100	.00120	.00141	.00161
1030 - 1095, 1140 - 1151, 13xx, 15xx, 2xxx, 3xxx, 4xxx & 4Lxx, 5xxx & 5Lxx, 50xxx & 50Lxx, 51xxx & 51Lxx, 52xxx & 52Lxx, 6xxx, 8xxx, 9xxx	200	.00009	.00011	.00014	.00018	.00027	.00037	.00046	.00055	.00064	.00073	.00092	.00110	.00129	.00147
STAINLESS STEELS															
203 EZ, 303 (all types), 416, 416Se, 416 Plus X, 420F, 420FSe, 430F, 430FSe, 440F, 440FSe	450	.00010	.00013	.00015	.00020	.00030	.00040	.00050	.00060	.00070	.00080	.00100	.00120	.00141	.00161
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	200	.00009	.00011	.00014	.00018	.00027	.00037	.00046	.00055	.00064	.00073	.00092	.00110	.00129	.00147
414, 431, 440A, 440B, 440C, 13-8, 15-5, 15-7, 17-4, 17-7	150	.00006	.00007	.00009	.00011	.00017	.00023	.00029	.00034	.00040	.00046	.00057	.00069	.00080	.00092
TOOL STEELS															
A, L, O, P, W series	200	.00009	.00011	.00014	.00018	.00027	.00037	.00046	.00055	.00064	.00073	.00092	.00110	.00129	.00147
D, H, M, T, S series	150	.00006	.00007	.00009	.00011	.00017	.00023	.00029	.00034	.00040	.00046	.00057	.00069	.00080	.00092
TITANIUM ALLOYS															
150	150	.00006	.00007	.00009	.00011	.00017	.00023	.00029	.00034	.00040	.00046	.00057	.00069	.00080	.00092
HIGH TEMP ALLOYS															
Inconel, Hastelloy, Waspalloy, Monel, Nimonic, Haynes, Incoloy	70	.00006	.00007	.00009	.00011	.00017	.00023	.00029	.00034	.00040	.00046	.00057	.00069	.00080	.00092

SFM	Hardness: 38-45 Rc (353-421 HBn)														
	Chip Load (IPT) By Drill Diameter														
	.031	.047	.062	.078	.093	.125	.187	.250	.312	.375	.437	.500	.625	.750	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
100	.00005	.00006	.00007	.00009	.00014	.00018	.00023	.00028	.00032	.00037	.00046	.00055	.00064	.00073	
90	.00003	.00004	.00004	.00006	.00009	.00011	.00014	.00017	.00020	.00023	.00029	.00034	.00040	.00046	
100	.00005	.00006	.00007	.00009	.00014	.00018	.00023	.00028	.00032	.00037	.00046	.00055	.00064	.00073	
90	.00003	.00004	.00004	.00006	.00009	.00011	.00014	.00017	.00020	.00023	.00029	.00034	.00040	.00046	
75	.00003	.00004	.00004	.00006	.00009	.00011	.00014	.00017	.00020	.00023	.00029	.00034	.00040	.00046	
50	.00003	.00004	.00004	.00006	.00009	.00011	.00014	.00017	.00020	.00023	.00029	.00034	.00040	.00046	