

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														
Wrought (1xxx, 2xxx, 3xxx, 5xxx, 6xxx, 7xxx, 8xxx)	1000	.00034	.00043	.00051	.00069	.00103	.00138	.00172	.00206	.00240	.00275	.00344	.00413	.00481	.00550
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	.00031	.00039	.00046	.00062	.00093	.00124	.00154	.00186	.00216	.00248	.00309	.00371	.00433	.00495
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														
		.00034	.00043	.00051	.00069	.00103	.00138	.00172	.00206	.00240	.00275	.00344	.00413	.00481	.00550
ZINC ALLOYS	800														
COPPER ALLOYS															
High Coppers - 90%+ (C1xxxx)	225														
Brass (Copper Zinc alloys, C2xxxx, C3xxxx, C4xxxx, C66400-C69800)	500														
Phosphor Bronzes (Copper Tin alloys, C5xxxx)	225														
Aluminum Bronzes (Copper Aluminum alloys, C60600-C64200)	500	.00027	.00034	.00041	.00055	.00082	.00110	.00137	.00165	.00192	.00220	.00275	.00330	.00385	.00440
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 Flutes, 3x Drill Length

Series: 7001xx

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	Hardness: 29-37 Rc (279-344 HBn)														
	SFM	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	.00012	.00015	.00018	.00024	.00035	.00047	.00059	.00071	.00083	.00095	.00118	.00142	.00165	.00189
1030 - 1095, 1140 - 1151, 13xx, 15xx, 20xx, 30xx, 40xx & 4xLxx, 50xx & 5xLxx, 50xxx & 50Lxxx, 51xxx & 51Lxxx, 52xxx & 52Lxxx, 60xx, 80xx, 90xx	200	.00011	.00013	.00016	.00022	.00032	.00043	.00054	.00065	.00076	.00086	.00108	.00130	.00151	.00173
STAINLESS STEELS															
203 EZ, 303 (all types), 416, 416Se, 416 Plus X, 420F, 420FSe, 430F, 430FSe, 440F, 440FSe	450	.00012	.00015	.00018	.00024	.00035	.00047	.00059	.00071	.00083	.00095	.00118	.00142	.00165	.00189
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	.00011	.00013	.00016	.00022	.00032	.00043	.00054	.00065	.00076	.00086	.00108	.00130	.00151	.00173
414, 431, 440A, 440B, 440C, 13-8, 15-5, 15-7, 17-4, 17-7	150	.00007	.00008	.00010	.00014	.00020	.00027	.00034	.00041	.00047	.00054	.00068	.00081	.00095	.00108
TOOL STEELS															
A, L, O, P, W series	200	.00011	.00013	.00016	.00022	.00032	.00043	.00054	.00065	.00076	.00086	.00108	.00130	.00151	.00173
D, H, M, T, S series	150	.00007	.00008	.00010	.00014	.00020	.00027	.00034	.00041	.00047	.00054	.00068	.00081	.00095	.00108
TITANIUM ALLOYS	150	.00007	.00008	.00010	.00014	.00020	.00027	.00034	.00041	.00047	.00054	.00068	.00081	.00095	.00108
HIGH TEMP ALLOYS	70	.00007	.00008	.00010	.00014	.00020	.00027	.00034	.00041	.00047	.00054	.00068	.00081	.00095	.00108
Inconel, Hastelloy, Waspalloy, Monel, Nimonic, Haynes, Discoloy, Incoloy															

Hardness: 38-45 Rc (353-421 HBn)														
SFM	Chip Load (IPT) By Drill Diameter													
	.031	.047	.062	.078	.093	.125	.187	.250	.312	.375	.437	.500	.625	.750
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
100	.00005	.00007	.00008	.00011	.00016	.00022	.00027	.00032	.00038	.00043	.00054	.00065	.00076	.00086
90	.00003	.00004	.00005	.00007	.00010	.00014	.00017	.00020	.00024	.00027	.00034	.00041	.00047	.00054
100	.00005	.00007	.00008	.00011	.00016	.00022	.00027	.00032	.00038	.00043	.00054	.00065	.00076	.00086
90	.00003	.00004	.00005	.00007	.00010	.00014	.00017	.00020	.00024	.00027	.00034	.00041	.00047	.00054
75	.00003	.00004	.00005	.00007	.00010	.00014	.00017	.00020	.00024	.00027	.00034	.00041	.00047	.00054
50	.00003	.00004	.00005	.00007	.00010	.00014	.00017	.00020	.00024	.00027	.00034	.00041	.00047	.00054