

MATERIAL	SFM	Hardness: ≤ 28 Rc (≤ 271 HBn)												Depth of Cut			
		Chip Load (IPT) By Cutter Diameter												Radial	Axial		
		0.062	0.078	0.093	0.125	0.187	0.250	0.312	0.375	0.438	0.500	0.625	0.750			1.000	
<b>ALUMINUM ALLOYS</b>																	
Casting (2xx, 5xx, 7xx, 8xx)	750	.00029	.00036	.00043	.00058	.00087	.00117	.00146	.00175	.00205	.00234	.00292	.00351	.00468	.12 x Dia	Full Width	
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	.00421	.12 x Dia	Full Width	
Casting - 12%-16% Si (3xx, A3xx, C3xx, 4xx, A4xx, B4xx)	475																
Wrought - 5%-8% Si (4xxx)	1000																
Wrought - 8%-12% Si (4xxx)	800																
<b>MAGNESIUM ALLOYS</b>	1500	.00029	.00036	.00043	.00058	.00087	.00117	.00146	.00175	.00205	.00234	.00292	.00351	.00468	.12 x Dia	Full Width	
<b>ZINC ALLOYS</b>	800																
<b>COPPER ALLOYS</b>																	
High Coppers - 90%+ (C1xxx)	225																
Brass (Copper Zinc alloys, C2xxx, C3xxx, C4xxx, C6400-C69800)	500																
Phosphor Bronzes (Copper Tin alloys, C5xxx)	225																
Aluminum Bronzes (Copper Aluminum alloys, C60600-C64200)	500	.00023	.00029	.00035	.00047	.00070	.00094	.00117	.00140	.00164	.00187	.00234	.00281	.00374	.12 x Dia	Full Width	
Silicon Bronzes (Copper Silicon alloys, C64700-C66100)	500																
Copper Nicksels, Nickel Silvers (Copper Nickel alloys, C7xxx)	225																
Cast Copper Alloys (C83300-C86200, C86400-C87900, C92200-C95800, C97300-C97800, C99400-C99700)	550																



Speeds & Feeds

**Product Table:** Keyseat Cutters - Square  
**Characteristics:** Standard Slotting (Type I), 3x Reach, 6 Flutes  
**Series:** 435xx, 437xx, 439xx, 697xx, 9562xx

**Product notes:**

Chip Loads (IPT) within table pertain to applications where the cutter is engaged on one side only and the cutter width is less than .5x diameter.  
 If the cutter is engaged on both sides, reduce chiploads to 50-60% of posted values.  
 If the cutter width > .5x diameter, reduce radial step over to 80% of posted values.

**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 up to 15% 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](mailto: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)												Depth of Cut		
		Chip Load (IPT) By Cutter Diameter												Radial	Axial	
		0.062	0.078	0.093	0.125	0.187	0.250	0.312	0.375	0.438	0.500	0.625	0.750			1.000
<b>CARBON STEELS</b>																
Free-Machining/Low Carbon steels, 10xx - 1029 & all 10Lxx, 11xx - 1139 & all 11Lxx, 12xx - 1215 & all 12Lxx	600	.00011	.00013	.00016	.00021	.00032	.00043	.00053	.00064	.00075	.00085	.00107	.00128	.00171	.08 x Dia	Full Width
1030 - 1095, 1140 - 1151, 13xx, 15xx, 2xxx, 3xxx, 4xxx & 4xLxx, 5xxx & 5xLxx, 50xxx & 50Lxxx, 51xxx & 51Lxxx, 52xxx & 52Lxxx, 6xxx, 8xxx, 9xxx	200	.00010	.00012	.00015	.00020	.00029	.00039	.00049	.00059	.00068	.00078	.00098	.00117	.00156	.08 x Dia	Full Width
<b>STAINLESS STEELS</b>																
203 EZ, 303 (all types), 416, 416Se, 416 Plus X, 420F, 420FSe, 430F, 430FSe, 440F, 440FSe	450	.00011	.00013	.00016	.00021	.00032	.00043	.00053	.00064	.00075	.00085	.00107	.00128	.00171	.08 x Dia	Full Width
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	.00010	.00012	.00015	.00020	.00029	.00039	.00049	.00059	.00068	.00078	.00098	.00117	.00156	.08 x Dia	Full Width
414, 431, 440A, 440B, 440C, 13-8, 15-5, 15-7, 17-4, 17-7	150	.00006	.00008	.00009	.00012	.00018	.00024	.00030	.00037	.00043	.00049	.00061	.00073	.00098	.08 x Dia	Full Width
<b>TOOL STEELS</b>																
A, L, O, P, W series	200	.00010	.00012	.00015	.00020	.00029	.00039	.00049	.00059	.00068	.00078	.00098	.00117	.00156	.08 x Dia	Full Width
D, H, M, T, S series	150	.00006	.00008	.00009	.00012	.00018	.00024	.00030	.00037	.00043	.00049	.00061	.00073	.00098	.08 x Dia	Full Width
<b>TITANIUM ALLOYS</b>	150	.00006	.00008	.00009	.00012	.00018	.00024	.00030	.00037	.00043	.00049	.00061	.00073	.00098	.08 x Dia	Full Width
<b>HIGH TEMP ALLOYS</b>																
Inconel, Hastelloy, Waspalloy, Monel, Nimonic, Haynes, Discology, Incoloy	70	.00006	.00008	.00009	.00012	.00018	.00024	.00030	.00037	.00043	.00049	.00061	.00073	.00098	.08 x Dia	Full Width

MATERIAL	SFM	Hardness: 38-45 Rc (353-421 HBn)												Depth of Cut		
		Chip Load (IPT) By Cutter Diameter												Radial	Axial	
		0.062	0.078	0.093	0.125	0.187	0.250	0.312	0.375	0.438	0.500	0.625	0.750			1.000
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
100	.00009	.00011	.00013	.00017	.00026	.00034	.00043	.00052	.00060	.00069	.00086	.00103	.00138	.06 x Dia	Full Width	
90	.00005	.00007	.00008	.00011	.00016	.00022	.00027	.00032	.00038	.00043	.00054	.00065	.00086	.06 x Dia	Full Width	
100	.00009	.00011	.00013	.00017	.00026	.00034	.00043	.00052	.00060	.00069	.00086	.00103	.00138	.06 x Dia	Full Width	
90	.00005	.00007	.00008	.00011	.00016	.00022	.00027	.00032	.00038	.00043	.00054	.00065	.00086	.06 x Dia	Full Width	
75	.00005	.00007	.00008	.00011	.00016	.00022	.00027	.00032	.00038	.00043	.00054	.00065	.00086	.06 x Dia	Full Width	
50	.00005	.00007	.00008	.00011	.00016	.00022	.00027	.00032	.00038	.00043	.00054	.00065	.00086	.06 x Dia	Full Width	