



Speeds & Feeds

**Product Table:** Keyseat Cutters -Stagger Tooth - Square- Reduced Shank  
**Characteristics:** 16 Flutes  
**Series:** 7711xx

**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**.

**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: ≤ 28 Rc (≤ 271 HBn)									
	SFM	Chip Load (IPT) By Cutter Diameter							Depth of Cut	
		0.500	0.625	0.750	0.875	1.000	1.250	1.500	Radial	Axial
<b>ALUMINUM ALLOYS</b>										
Casting (2xx, 5xx, 7xx, 8xx)	750	.00212	.00265	.00318	.00371	.00424	.00529	.00635	.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	.00191	.00238	.00286	.00334	.00381	.00476	.00572	.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	.00212	.00265	.00318	.00371	.00424	.00529	.00635	.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, C66400-C69800)	500									
Phosphor Bronzes (Copper Tin alloys, C5xxx)	225									
Aluminum Bronzes (Copper Aluminum alloys, C60600-C64200)	500	.00127	.00148	.00169	.00212	.00254	.00296	.00339	.12 x Dia	Full Width
Silicon Bronzes (Copper Silicon alloys, C64700-C66100)	500									
Copper Nickels, Nickel Silvers (Copper Nickel alloys, C7xxx)	225									
Cast Copper Alloys (C83300-C86200, C86400-C87900, C92200-C95800, C97300-C97800, C99400-C99700)	550									

MATERIAL	Hardness: 29-37 Rc (279-344 HBn)									
	SFM	Chip Load (IPT) By Cutter Diameter							Depth of Cut	
		0.500	0.625	0.750	0.875	1.000	1.250	1.500	Radial	Axial
<b>CARBON STEELS</b>										
Free-Machining/Low Carbon steels, 10xx - 1029 & all 10Lxx, 11xx - 1139 & all 11Lxx, 12xx - 1215 & all 12Lxx	600	.00077	.00097	.00116	.00135	.00155	.00193	.00232	.08 x Dia	Full Width
1030 - 1095, 1140 - 1151, 13xx, 15xx, 2xxx, 3xxx, 4xxx & 4Lxx, 5xxx & 5Lxx, 50xx & 50Lxx, 51xx & 51Lxx, 52xx & 52Lxx, 6xxx, 8xxx, 9xxx	200	.00071	.00088	.00106	.00124	.00141	.00177	.00212	.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	.00077	.00097	.00116	.00135	.00155	.00193	.00232	.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	.00071	.00088	.00106	.00124	.00141	.00177	.00212	.08 x Dia	Full Width
414, 431, 440A, 440B, 440C, 13-8, 15-5, 15-7, 17-4, 17-7	150	.00044	.00055	.00066	.00077	.00088	.00110	.00133	.08 x Dia	Full Width
<b>TOOL STEELS</b>										
A, L, O, P, W series	200	.00071	.00088	.00106	.00124	.00141	.00177	.00212	.08 x Dia	Full Width
D, H, M, T, S series	150	.00044	.00055	.00066	.00077	.00088	.00110	.00133	.08 x Dia	Full Width
<b>TITANIUM ALLOYS</b>	150	.00044	.00055	.00066	.00077	.00088	.00110	.00133	.08 x Dia	Full Width
<b>HIGH TEMP ALLOYS</b>										
Inconel, Hastelloy, Waspalloy, Monel, Nimonic, Haynes, Discoloy, Incoloy	70	.00044	.00055	.00066	.00077	.00088	.00110	.00133	.08 x Dia	Full Width

MATERIAL	Hardness: 38-45 Rc (353-421 HBn)									
	SFM	Chip Load (IPT) By Cutter Diameter							Depth of Cut	
		0.500	0.625	0.750	0.875	1.000	1.250	1.500	Radial	Axial
	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-
	100	.00062	.00078	.00094	.00109	.00125	.00156	.00187	.06 x Dia	Full Width
	90	.00039	.00049	.00058	.00068	.00078	.00097	.00117	.06 x Dia	Full Width
	100	.00062	.00078	.00094	.00109	.00125	.00156	.00187	.06 x Dia	Full Width
	90	.00039	.00049	.00058	.00068	.00078	.00097	.00117	.06 x Dia	Full Width
	75	.00039	.00049	.00058	.00068	.00078	.00097	.00117	.06 x Dia	Full Width
	50	.00039	.00049	.00058	.00068	.00078	.00097	.00117	.06 x Dia	Full Width