HARVEY TOOL

Speeds & Feeds

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

Hardness: ≤ 28 Rc (≤ 271 HBn)

MATERIAL	SFM	Chip Load (IPT) By Cutter Diameter 0.500	0.625	0.750	0.875	1.000	1.250	1.500	Depth of Cut Radial	Axial
ALUMINUM ALLOYS										
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	.00191	.00238	.00286	.00334	.00381	.00476	.00572	.12 x Dia	Full Width
Casting - 5%-8% Si (3xx, A3xx, C3xx, 4xx, A4xx, B4xx)	700									
Casting - 8%-12% Si (3xx, A3xx, C3xx, 4xx, A4xx, B4xx)	650									
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	.00212	.00265	.00318	.00371	.00424	.00529	.00635	.12 x Dia	Full Width
ZINC ALLOYS	800									
COPPER ALLOYS										
High Coppers - 90%+ (C1xxxx)	225	.00127	.00148	.00169	.00212	.00254	.00296	.00339	.12 x Dia	Full Width
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									
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									

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.

Hardness: 29-37 Rc (279-344 HBn)

MATERIAL	SFM	Chip Load (IPT) By Cutter Diameter 0.500	0.625	0.750	0.875	1.000	1.250	1.500	Depth of Cut Radial	Axial
CARBON STEELS										
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 & 4xLxx, 5xxx & 5xLxx, 50xxx & 50Lxxx, 51xxx & 51Lxxx, 52xxx & 52Lxxx, 6xxx, 8xxx, 9xxx	200	.00071	.00088	.00106	.00124	.00141	.00177	.00212	.08 x Dia	Full Width
STAINLESS STEELS										
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
TOOL STEELS										
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
TITANIUM ALLOYS	150	.00044	.00055	.00066	.00077	.00088	.00110	.00133	.08 x Dia	Full Width
HIGH TEMP ALLOYS										
Inconel, Hastelloy, Waspalloy, Monel, Nimonic, Haynes, Discoloy, Incoloy	70	.00044	.00055	.00066	.00077	.00088	.00110	.00133	.08 x Dia	Full Width

Hardness: 38-45 Rc (353-421 HBn)

MATERIAL	SFM	Chip Load (IPT) By Cutter Diameter 0.500	0.625	0.750	0.875	1.000	1.250	1.500	Depth of Cut Radial	Axial
Free-Machining/Low Carbon steels, 10xx - 1029 & all 10Lxx, 11xx - 1139 & all 11Lxx, 12xx - 1215 & all 12Lxx	-	-	-	-	-	-	-	-	-	-
1030 - 1095, 1140 - 1151, 13xx, 15xx, 2xxx, 3xxx, 4xxx & 4xLxx, 5xxx & 5xLxx, 50xxx & 50Lxxx, 51xxx & 51Lxxx, 52xxx & 52Lxxx, 6xxx, 8xxx, 9xxx	-	-	-	-	-	-	-	-	-	-
203 EZ, 303 (all types), 416, 416Se, 416 Plus X, 420F, 420FSe, 430F, 430FSe, 440F, 440FSe	-	-	-	-	-	-	-	-	-	-
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	100	.00062	.00078	.00094	.00109	.00125	.00156	.00187	.06 x Dia	Full Width
414, 431, 440A, 440B, 440C, 13-8, 15-5, 15-7, 17-4, 17-7	90	.00039	.00049	.00058	.00068	.00078	.00097	.00117	.06 x Dia	Full Width
A, L, O, P, W series	100	.00062	.00078	.00094	.00109	.00125	.00156	.00187	.06 x Dia	Full Width
D, H, M, T, S series	90	.00039	.00049	.00058	.00068	.00078	.00097	.00117	.06 x Dia	Full Width
TITANIUM ALLOYS	75	.00039	.00049	.00058	.00068	.00078	.00097	.00117	.06 x Dia	Full Width
Inconel, Hastelloy, Waspalloy, Monel, Nimonic, Haynes, Discoloy, Incoloy	50	.00039	.00049	.00058	.00068	.00078	.00097	.00117	.06 x Dia	Full Width