MICRO 100®

Speeds & Feeds

Table 1	
Neck Length/Neck Diameter Ratio	Chipload
3x	110%
5x	100%
8x	90%
10x	80%
14x	75%

Product Table: Chamfer Cutters - Back Chamfer Cutters
Characteristics: 60°-90° Included Angle
Series: MBC-XXX

Product notes:

Chip Loads are given 3 ways:
Deburring: Generating an Edge Break of .005"-.008"
Front/Back Chamfer: Full chamfer generation using front or back of the cutter head

Depth of Cut is shown as number of Passes with each pass resulting in a reduced percentage stepover

Chip Loads within table pertain to machining on one side (from tool centerline) of the cutter head.
For machining on two sides, reduce Chip Loads to 60%-80% depending on contact length and finish

Adjust chiploads according to the values in Table 1 to account for the neck length to neck diameter ratio.

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, Micro100 has a team of technical experts available to assist you through even the most challenging applications. Please contact us at **800-421-8065** or **micro100tech@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: ≤ 28 Rc (≤ 271 HBn)

MATERIAL	SFM		Chip Load (IPT) By Cutter Diameter								Depth of Cut
			0.250	0.312	0.375	0.437	0.500	0.625	0.750	1.000	Passes
ALUMINUM ALLOYS Casting (2xx, 5xx, 7xx, 8xx)	750	Deburring	.00198	.00273	.00329	.00383	.00438	.00548	.00657	.00876	1
		Front/Back Chamfer	.00165	.00228	.00274	.00319	.00365	.00456	.00548	.00730	2
Wrought (1xxx, 2xxx, 3xxx, 5xxx, 6xxx, 7xxx, 8xxx)	1000	V-Groove	.00124	.00171	.00205	.00239	.00274	.00342	.00411	.00548	3
Casting - 3%-5% Si (3xx, A3xx, C3xx, 4xx, A4xx, B4xx)	750	Deburring	.00178	.00246	.00296	.00345	.00394	.00493	.00591	.00788	1
Casting - 5%-8% Si (3xx, A3xx, C3xx, 4xx, A4xx, B4xx)	700										
Casting - 8%-12% Si (3xx, A3xx, C3xx, 4xx, A4xx, B4xx)	650	Front/Back Chamfer	.00149	.00205	.00246	.00287	.00329	.00411	.00493	.00657	2
Casting - 12%-16% Si (3xx, A3xx, C3xx, 4xx, A4xx, B4xx)	475										
Wrought - 5%-8% Si (4xxx)	1000	V-Groove	.00111	.00154	.00185	.00215	.00246	.00308	.00370	.00493	3
Wrought - 8%-12% Si (4xxx)	800										
MAGNESIUM ALLOYS	1500	Deburring	.00198	.00273	.00329	.00383	.00438	.00548	.00657	.00876	1
		Front/Back Chamfer	.00165	.00228	.00274	.00319	.00365	.00456	.00548	.00730	2
ZINC ALLOYS	800	V-Groove	.00124	.00171	.00205	.00239	.00274	.00342	.00411	.00548	3
COPPER ALLOYS High Coppers - 90%+ (C1xxxx)	225	Deburring	.00158	.00219	.00263	.00306	.00350	.00438	.00526	.00701	1
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	Front/Back Chamfer	.00132	.00182	.00219	.00255	.00292	.00365	.00438	.00584	2
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	V-Groove	.00099	.00137	.00164	.00191	.00219	.00274	.00329	.00438	3

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

MATERIAL	SFM		Chip Load (IPT) By Cutter Diameter								Depth of Cut
			0.250	0.312	0.375	0.437	0.500	0.625	0.750	1.000	Passes
CARBON STEELS Free-Machining/Low Carbon steels, 10xx - 1029 & all 10Lxx, 11xx - 1139 & all 11Lxx, 12xx - 1215 & all 12Lxx	600	Deburring	.00084	.00118	.00142	.00165	.00189	.00236	.00284	.00378	1
		Front/Back Chamfer	.00070	.00098	.00118	.00138	.00158	.00197	.00236	.00315	3
		V-Groove	.00053	.00074	.00089	.00103	.00118	.00148	.00177	.00236	4
1030 - 1095, 1140 - 1151, 13xx, 15xx, 2xxx, 3xxx, 4xxx & 4xLxx, 5xxx & 5xLxx, 50xxx & 50Lxxx, 51xxx & 51Lxxx, 52xxx & 52Lxxx, 6xxx, 8xxx, 9xxx	200	Deburring	.00077	.00108	.00130	.00151	.00173	.00216	.00259	.00346	1
		Front/Back Chamfer	.00064	.00090	.00108	.00126	.00144	.00180	.00216	.00288	3
		V-Groove	.00048	.00067	.00081	.00094	.00108	.00135	.00162	.00216	4
TOOL STEELS A, L, O, P, W series	200	Deburring	.00077	.00108	.00130	.00151	.00173	.00216	.00259	.00346	1
		Front/Back Chamfer	.00064	.00090	.00108	.00126	.00144	.00180	.00216	.00288	3
		V-Groove	.00048	.00067	.00081	.00094	.00108	.00135	.00162	.00216	4
D, H, M, T, S series	150	Deburring	.00048	.00067	.00081	.00094	.00108	.00135	.00162	.00216	1
		Front/Back Chamfer	.00040	.00056	.00068	.00079	.00090	.00113	.00135	.00180	3
		V-Groove	.00030	.00042	.00051	.00059	.00068	.00084	.00101	.00135	4
STAINLESS STEELS 203 EZ, 303 (all types), 416, 416Se, 416 Plus X, 420F, 420FSe, 430F, 430FSe, 440F, 440FSe	450	Deburring	.00084	.00118	.00142	.00165	.00189	.00236	.00284	.00378	1
		Front/Back Chamfer	.00070	.00098	.00118	.00138	.00158	.00197	.00236	.00315	3
		V-Groove	.00053	.00074	.00089	.00103	.00118	.00148	.00177	.00236	4
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	Deburring	.00077	.00108	.00130	.00151	.00173	.00216	.00259	.00346	1
		Front/Back Chamfer	.00064	.00090	.00108	.00126	.00144	.00180	.00216	.00288	3
		V-Groove	.00048	.00067	.00081	.00094	.00108	.00135	.00162	.00216	4
414, 431, 440A, 440B, 440C, 13-8, 15-5, 15-7, 17-4, 17-7	150	Deburring	.00048	.00067	.00081	.00094	.00108	.00135	.00162	.00216	1
		Front/Back Chamfer	.00040	.00056	.00068	.00079	.00090	.00113	.00135	.00180	3
		V-Groove	.00030	.00042	.00051	.00059	.00068	.00084	.00101	.00135	4
TITANIUM ALLOYS	150	Deburring	.00048	.00067	.00081	.00094	.00108	.00135	.00162	.00216	1
		Front/Back Chamfer	.00040	.00056	.00068	.00079	.00090	.00113	.00135	.00180	3
		V-Groove	.00030	.00042	.00051	.00059	.00068	.00084	.00101	.00135	4
HIGH TEMP ALLOYS Inconel, Hastelloy, Waspalloy, Monel, Nimonic, Haynes, Discoloy, Incoloy	70	Deburring	.00048	.00067	.00081	.00094	.00108	.00135	.00162	.00216	1
		Front/Back Chamfer	.00040	.00056	.00068	.00079	.00090	.00113	.00135	.00180	3
		V-Groove	.00030	.00042	.00051	.00059	.00068	.00084	.00101	.00135	4

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

SFM		Chip Load (IPT) By Cutter Diameter								Depth of Cut
		0.250	0.312	0.375	0.437	0.500	0.625	0.750	1.000	Passes
-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-
100	Deburring	.00077	.00108	.00130	.00151	.00173	.00216	.00259	.00346	1
	Front/Back Chamfer	.00064	.00090	.00108	.00126	.00144	.00180	.00216	.00288	4
	V-Groove	.00048	.00067	.00081	.00094	.00108	.00135	.00162	.00216	5
90	Deburring	.00048	.00067	.00081	.00094	.00108	.00135	.00162	.00216	1
	Front/Back Chamfer	.00040	.00056	.00068	.00079	.00090	.00113	.00135	.00180	4
	V-Groove	.00030	.00042	.00051	.00059	.00068	.00084	.00101	.00135	5
-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-
100	Deburring	.00077	.00108	.00130	.00151	.00173	.00216	.00259	.00346	1
	Front/Back Chamfer	.00064	.00090	.00108	.00126	.00144	.00180	.00216	.00288	4
	V-Groove	.00048	.00067	.00081	.00094	.00108	.00135	.00162	.00216	5
90	Deburring	.00048	.00067	.00081	.00094	.00108	.00135	.00162	.00216	1
	Front/Back Chamfer	.00040	.00056	.00068	.00079	.00090	.00113	.00135	.00180	4
	V-Groove	.00030	.00042	.00051	.00059	.00068	.00084	.00101	.00135	5
75	Deburring	.00048	.00067	.00081	.00094	.00108	.00135	.00162	.00216	1
	Front/Back Chamfer	.00040	.00056	.00068	.00079	.00090	.00113	.00135	.00180	4
	V-Groove	.00030	.00042	.00051	.00059	.00068	.00084	.00101	.00135	5
50	Deburring	.00048	.00067	.00081	.00094	.00108	.00135	.00162	.00216	1
	Front/Back Chamfer	.00040	.00056	.00068	.00079	.00090	.00113	.00135	.00180	4
	V-Groove	.00030	.00042	.00051	.00059	.00068	.00084	.00101	.00135	5