

MATERIAL	Hardness: ≤ 28 Rc (≤ 271 HBn)									Depth of Cut Passes	
	SFM	Chip Load (IPT) By Cutter Diameter									
		0.250	0.312	0.375	0.437	0.500	0.625	0.750	1.000		
<b>ALUMINUM ALLOYS</b>											
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
	750	Deburring	.00178	.00246	.00296	.00345	.00394	.00493	.00591	.00788	1
Casting - 3%-5% Si (3xx, A3xx, C3xx, 4xx, A4xx, B4xx)	700	Front/Back Chamfer	.00149	.00205	.00246	.00287	.00329	.00411	.00493	.00657	2
	650	Deburring	.00149	.00205	.00246	.00287	.00329	.00411	.00493	.00657	2
Casting - 5%-8% Si (3xx, A3xx, C3xx, 4xx, A4xx, B4xx)	475	Front/Back Chamfer	.00149	.00205	.00246	.00287	.00329	.00411	.00493	.00657	2
	800	V-Groove	.00111	.00154	.00185	.00215	.00246	.00308	.00370	.00493	3
Casting - 8%-12% Si (3xx, A3xx, C3xx, 4xx, A4xx, B4xx)	1000	V-Groove	.00111	.00154	.00185	.00215	.00246	.00308	.00370	.00493	3
	800	V-Groove	.00111	.00154	.00185	.00215	.00246	.00308	.00370	.00493	3
<b>MAGNESIUM ALLOYS</b>	1500	Deburring	.00198	.00273	.00329	.00383	.00438	.00548	.00657	.00876	1
		Front/Back Chamfer	.00165	.00228	.00274	.00319	.00365	.00456	.00548	.00730	2
	800	V-Groove	.00124	.00171	.00205	.00239	.00274	.00342	.00411	.00548	3
<b>ZINC ALLOYS</b>	800	V-Groove	.00124	.00171	.00205	.00239	.00274	.00342	.00411	.00548	3
<b>COPPER ALLOYS</b>	225	Deburring	.00158	.00219	.00263	.00306	.00350	.00438	.00526	.00701	1
High Coppers - 90%+ (C1xxxx) Brass (Copper Zinc alloys, C2xxxx, C3xxxx, C4xxxx, C66400-C69800) Phosphor Bronzes (Copper Tin alloys, C5xxxx)	500	Front/Back Chamfer	.00132	.00182	.00219	.00255	.00292	.00365	.00438	.00584	2
	500	V-Groove	.00099	.00137	.00164	.00191	.00219	.00274	.00329	.00438	3
Aluminum Bronzes (Copper Aluminum alloys, C60600-C64200) Silicon Bronzes (Copper Silicon alloys, C64700-C66100) Copper Nickels, Nickel Silvers (Copper Nickel alloys, C7xxxx)	225	Front/Back Chamfer	.00132	.00182	.00219	.00255	.00292	.00365	.00438	.00584	2
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



Speeds & Feeds

**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.

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

MATERIAL	Hardness: 29-37 Rc (279-344 HBn)									Depth of Cut Passes	
	SFM	Chip Load (IPT) By Cutter Diameter									
		0.250	0.312	0.375	0.437	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	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
<b>TOOL STEELS</b>											
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
<b>STAINLESS STEELS</b>											
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
<b>TITANIUM ALLOYS</b>	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
<b>HIGH TEMP ALLOYS</b>	70	Deburring	.00048	.00067	.00081	.00094	.00108	.00135	.00162	.00216	1
Inconel, Hastelloy, Waspalloy, Monel, Nimonic, Haynes, Discoloy, Incoloy		Front/Back Chamfer	.00040	.00056	.00068	.00079	.00090	.00113	.00135	.00180	3
		V-Groove	.00030	.00042	.00051	.00059	.00068	.00084	.00101	.00135	4

MATERIAL	Hardness: 38-45 Rc (353-421 HBn)									Depth of Cut Passes	
	SFM	Chip Load (IPT) By Cutter Diameter									
		0.250	0.312	0.375	0.437	0.500	0.625	0.750	1.000		
		-	-	-	-	-	-	-	-	-	
		-	-	-	-	-	-	-	-	-	
		-	-	-	-	-	-	-	-	-	
		-	-	-	-	-	-	-	-	-	
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