

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		
ALUMINUM ALLOYS																		
Casting (2xx, 5xx, 7xx, 8xx)	750	.00036	.00045	.00054	.00072	.00113	.00151	.00189	.00227	.00265	.00303	.00378	.00454	.00605	2 Passes	Full Form		
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	.00032	.00041	.00048	.00065	.00102	.00136	.00170	.00204	.00238	.00272	.00340	.00408	.00545	2 Passes	Full Form		
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	.00036	.00045	.00054	.00072	.00113	.00151	.00189	.00227	.00265	.00303	.00378	.00454	.00605	2 Passes	Full Form		
ZINC ALLOYS	800																	
COPPER ALLOYS																		
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	.00029	.00036	.00043	.00058	.00091	.00121	.00151	.00182	.00212	.00242	.00303	.00363	.00484	2 Passes	Full Form		
Silicon Bronzes (Copper Silicon alloys, C64100-C69100)	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: Thread Milling Cutters - Thread Relief Cutter
Series: MTR-XXX

Product notes:

Typical thread reliefs are done before threading to avoid any damage to the threads. Depth of Cut is shown as number of Passes with each pass resulting in a descending stepover.

Chip Loads within table pertain to machining on one side (from tool centerline) of the cutter head. This chart represents a linear feed rate chip load. Since this tool is used in a helical interpolation environment, adjusting the feed rate for a circular motion is needed to avoid deflection and tool breakage. To calculate use the formula:

$$\text{Adj Internal Circular Feed} = [(\text{Hole Dia} - \text{Cutter Dia}) / \text{Hole Dia}] \times \text{Linear Feed}$$

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, 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@harveypformance.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	
CARBON STEELS																	
Free-Machining/Low Carbon steels, 10xx - 1029 & all 10Lxx, 11xx - 1139 & all 11Lxx, 12xx - 1215 & all 12Lxx	600	.00013	.00016	.00020	.00026	.00041	.00055	.00069	.00083	.00097	.00110	.00138	.00166	.00221	3 Passes	Full Form	
1030 - 1095, 1140 - 1151, 13xx, 15xx, 20xx, 30xx, 40xx & 4xLxx, 50xx & 5xLxx, 50xxx & 50Lxxx, 51xxx & 51Lxxx, 52xxx & 52Lxxx, 60xx, 80xx, 90xx	200	.00012	.00015	.00018	.00024	.00038	.00050	.00063	.00076	.00088	.00101	.00126	.00151	.00202	3 Passes	Full Form	
TOOL STEELS																	
A, L, O, P, W series	200	.00012	.00015	.00018	.00024	.00038	.00050	.00063	.00076	.00088	.00101	.00126	.00151	.00202	3 Passes	Full Form	
D, H, M, T, S series	150	.00007	.00009	.00011	.00015	.00024	.00032	.00039	.00047	.00055	.00063	.00079	.00095	.00126	3 Passes	Full Form	
STAINLESS STEELS																	
203 EZ, 303 (all types), 416, 416Se, 416 Plus X, 420F, 420FSe, 430F, 430FSe, 440F, 440FSe	450	.00013	.00016	.00020	.00026	.00041	.00055	.00069	.00083	.00097	.00110	.00138	.00166	.00221	3 Passes	Full Form	
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	.00012	.00015	.00018	.00024	.00038	.00050	.00063	.00076	.00088	.00101	.00126	.00151	.00202	3 Passes	Full Form	
414, 431, 440A, 440B, 440C, 13-8, 15-5, 15-7, 17-4, 17-7	150	.00007	.00009	.00011	.00015	.00024	.00032	.00039	.00047	.00055	.00063	.00079	.00095	.00126	3 Passes	Full Form	
TITANIUM ALLOYS	150	.00007	.00009	.00011	.00015	.00024	.00032	.00039	.00047	.00055	.00063	.00079	.00095	.00126	3 Passes	Full Form	
HIGH TEMP ALLOYS																	
Inconel, Hastelloy, Waspalloy, Monel, Nimonic, Haynes, Discology, Incoloy	70	.00007	.00009	.00011	.00015	.00024	.00032	.00039	.00047	.00055	.00063	.00079	.00095	.00126	3 Passes	Full Form	

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	.00011	.00013	.00016	.00021	.00033	.00045	.00056	.00067	.00078	.00089	.00111	.00134	.00178	3 Passes	Full Form		
90	.00007	.00008	.00010	.00013	.00021	.00028	.00035	.00042	.00049	.00056	.00070	.00084	.00111	3 Passes	Full Form		
		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
100	.00011	.00013	.00016	.00021	.00033	.00045	.00056	.00067	.00078	.00089	.00111	.00134	.00178	3 Passes	Full Form		
90	.00007	.00008	.00010	.00013	.00021	.00028	.00035	.00042	.00049	.00056	.00070	.00084	.00111	3 Passes	Full Form		
75	.00007	.00008	.00010	.00013	.00021	.00028	.00035	.00042	.00049	.00056	.00070	.00084	.00111	3 Passes	Full Form		
50	.00007	.00008	.00010	.00013	.00021	.00028	.00035	.00042	.00049	.00056	.00070	.00084	.00111	3 Passes	Full Form		