										≤ 271 H	lBn)					
MATERIAL	SFM		Chip Load (IPT) By Cutter Diameter													of Cut
	O	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	Radial	Axial
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		.00010	.00001		.00110			.oozz,	.00200						1 0111 7 01111
Casting - 3%-5% Si (3xx, A3xx, C3xx, 4xx, A4xx, B4xx)	750															
Casting - 5%-8% Si (3xx, A3xx, C3xx, 4xx, A4xx, B4xx)	700			.00048	.00065	.00102	.00136	.00170			8 .00272	.00340	.00408	.00545	2 Passes	
Casting - 8%-12% Si (3xx, A3xx, C3xx, 4xx, A4xx, B4xx)	650	.00032	.00041						.00204	.00238						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	.00036	.00043	.00054		.00110	.00151	.00103	.00227	.00203			.00454	.00605	2 Passes	-un Form
COPPER ALLOYS																
High Coppers - 90%+ (C1xxxx)	225															
Brass (Copper Zinc alloys, C2xxxx, C3xxxx, C4xxxx, C66400-C69800)	500		.00036													
Phosphor Bronzes (Copper Tin alloys, C5xxxx)	225															Full Form
Aluminum Bronzes (Copper Aluminum alloys, C60600-C64200)	500	.00029		.00043	.00058	.00091	.00121	.00151	.00182	.00212	.00242	.00303	.00363	.00484	2 Passes	
Silicon Bronzes (Copper Silicon alloys, 264700-C66100)																
Copper Nickels, Nickel Silvers (Copper Nickel alloys, C7xxxx)	225															
Cast Copper Alloys (C83300-C86200, C86400-C87900, C92200-C95800, C97300-C97800, C99400-C99700)	550			l												



Speeds & Feeds

Product Table: Thread Milling Cutters - Thread Relief Cutter

Characteristics: Short Reach

Series: 9429xx, 9460xx, 9525xx, 9553xx, 9754xx, 9796xx, 9857xx, 9888xx

## 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 <u>descending</u> 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:

Adj Internal Circular Feed = [(Hole Dia - Cutter Dia) / Hole Dia] x 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  $\leq$  28 Rc, thip 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@harveyvecformance.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)												Hardness: 38-45 Rc (353-421 HBn)																				
MATERIAL	SFM									ter Diame						of Cut																
	O	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	Radial	Axial	O	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	Radial	Axial
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, 2xxx, 3xxx, 4xxx & 4xlxx, 5xxx & 5xlxx, 5xxx & 50lxxx, 5xxx & 51lxxx, 52xxx & 52lxxx, 6xxx, 6xxx, 9xxx	200	.00012	.00015	.00018	.00024	.00038	.00050	.00063	.00076	.00088	.00101	.00126	.00151	.00202	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	100	.00011	.00013	.00016	.00021	.00033	.00045	.00056	.00067	.00078	.00089	.00111	.00134	.00178	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	90	.00007	.00008	.00010	.00013	.00021	.00028	.00035	.00042	.00049	.00056	.00070	.00084	.00111	3 Passes	Full Form
TOOL STEELS																1	_															
A, L, O, P, W series	200	.00012	.00015	.00018	.00024	.00038	.00050	.00063	.00076	.00088	.00101	.00126	.00151	.00202	3 Passes	Full Form	100	.00011	.00013	.00016	.00021	.00033	.00045	.00056	.00067	.00078	.00089	.00111	.00134	.00178	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	90	.00007	.00008	.00010	.00013	.00021	.00028	.00035	.00042	.00049	.00056	.00070	.00084	.00111	3 Passes	Full Form
TITANIUM ALLOYS	150	.00007	.00009	.00011	.00015	.00024	.00032	.00039	.00047	.00055	.00063	.00079	.00095	.00126	3 Passes	Full Form	75	.00007	.00008	.00010	.00013	.00021	.00028	.00035	.00042	.00049	.00056	.00070	.00084	.00111	3 Passes	Full Form
HIGH TEMP ALLOYS																																
Inconel, Hastelloy, Waspalloy, Monel, Nimonic, Haynes, Discoloy, Incoloy	70	.00007	.00009	.00011	.00015	.00024	.00032	.00039	.00047	.00055	.00063	.00079	.00095	.00126	3 Passes	Full Form	50	.00007	.00008	.00010	.00013	.00021	.00028	.00035	.00042	.00049	.00056	.00070	.00084	.00111	3 Passes	Full Form