

MATERIAL	SMM	Hardness: ≤ 28 Rc (≤ 271 HBn)														
		Chip Load (MMPT) by Dia				Depth of Cut		Chip Load (MMPT) by Cutter Dia						Depth of Cut		
		0.50	0.75	1.20	Radial	Axial	1.50	2.00	2.50	3.00	5.00	6.00	Radial	Axial		
ALUMINUM ALLOYS																
Casting (2xx, 5xx, 7xx, 8xx)	230	Finishing	.0024	.0036	.0058	.05 x Dia	8 x Dia	.0063	.0083	.0104	.0125	.0209	.0250	.10 x Dia	8 x Dia	
Wrought (1xxx, 2xxx, 3xxx, 5xxx, 6xxx, 7xxx, 8xxx)	305															
Casting - 3%-5% Si (3xx, A3xx, C3xx, 4xx, A4xx, B4xx)	230	Finishing	.0022	.0032	.0052	.05 x Dia	8 x Dia	.0056	.0075	.0094	.0113	.0188	.0225	.10 x Dia	8 x Dia	
Casting - 5%-8% Si (3xx, A3xx, C3xx, 4xx, A4xx, B4xx)	215															
Casting - 8%-12% Si (3xx, A3xx, C3xx, 4xx, A4xx, B4xx)	200															
Casting - 12%-16% Si (3xx, A3xx, C3xx, 4xx, A4xx, B4xx)	145															
Wrought - 5%-8% Si (4xxx)	305															
Wrought - 8%-12% Si (4xxx)	245															
MAGNESIUM ALLOYS		460	Finishing	.0024	.0036	.0058	.05 x Dia	8 x Dia	.0063	.0083	.0104	.0125	.0209	.0250	.10 x Dia	8 x Dia
ZINC ALLOYS		245														
COPPER ALLOYS			Finishing	.0019	.0029	.0046	.05 x Dia	8 x Dia	.0050	.0067	.0083	.0100	.0167	.0200	.10 x Dia	8 x Dia
High Coppers - 90%+ (C1xxx)	70															
Brass (Copper Zinc alloys, C2xxx, C3xxx, C4xxx, C66400-C69800)	150															
Phosphor Bronzes (Copper Tin alloys, C5xxx)	70															
Aluminum Bronzes (Copper Aluminum alloys, C60600-C64200)	150															
Silicon Bronzes (Copper Silicon alloys, C64700-C66100)	150															
Copper Nickels, Nickel Silvers (Copper Nickel alloys, C7xxx)	70															
Cast Copper Alloys (C83300-C86200, C86400-C87900, C92200-C95800, C97300-C97800, C99400-C99700)	170															



Product Table: Miniature End Mills - Square - Long Flute - Metric
Characteristics: 8x Length of Cut, 4 Flutes
Series: 7442xx

Please note:

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, 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

MATERIAL	Hardness: 29-37 Rc (279-344 HBn)														
	SMM	Chip Load (MMPT) by Dia				Depth of Cut		Chip Load (MMPT) by Cutter Dia						Depth of Cut	
		0.50	0.75	1.20	Radial	Axial	1.50	2.00	2.50	3.00	5.00	6.00	Radial	Axial	
CARBON STEELS															
Free-Machining/Low Carbon steels, 10xx - 1029 & all 10Lxx, 11xx - 1139 & all 11Lxx, 12xx - 1215 & all 12Lxx	180	Finishing	.0007	.0011	.0018	.05 x Dia	8 x Dia	.0020	.0026	.0033	.0039	.0065	.0078	.10 x Dia	8 x Dia
1030 - 1095, 1140 - 1151, 13xx, 15xx, 20xx, 30xx, 40xx & 4xLxx, 50xx & 5xLxx, 50xxx & 50Lxxx, 51xxx & 51Lxxx, 52xxx & 52Lxxx, 60xx, 80xx, 90xx	60	Finishing	.0007	.0010	.0016	.05 x Dia	8 x Dia	.0018	.0024	.0030	.0036	.0060	.0072	.10 x Dia	8 x Dia
STAINLESS STEELS															
203 EZ, 303 (all types), 416, 416Se, 416 Plus X, 420F, 420FSe, 430F, 430FSe, 440F, 440FSe	140	Finishing	.0007	.0011	.0018	.05 x Dia	8 x Dia	.0020	.0026	.0033	.0039	.0065	.0078	.10 x Dia	8 x Dia
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	60	Finishing	.0007	.0010	.0016	.05 x Dia	8 x Dia	.0018	.0024	.0030	.0036	.0060	.0072	.10 x Dia	8 x Dia
414, 431, 440A, 440B, 440C, 13-8, 15-5, 15-7, 17-4, 17-7	45	Finishing	.0004	.0006	.0010	.05 x Dia	8 x Dia	.0011	.0015	.0019	.0022	.0037	.0045	.10 x Dia	8 x Dia
TOOL STEELS															
A, L, O, P, W series	60	Finishing	.0007	.0010	.0016	.05 x Dia	8 x Dia	.0018	.0024	.0030	.0036	.0060	.0072	.10 x Dia	8 x Dia
D, H, M, T, S series	45	Finishing	.0004	.0006	.0010	.05 x Dia	8 x Dia	.0011	.0015	.0019	.0022	.0037	.0045	.10 x Dia	8 x Dia
TITANIUM ALLOYS	45	Finishing	.0004	.0006	.0010	.05 x Dia	8 x Dia	.0011	.0015	.0019	.0022	.0037	.0045	.10 x Dia	8 x Dia
HIGH TEMP ALLOYS															
Inconel, Hastelloy, Waspalloy, Monel, Nimonic, Haynes, Discoloy, Incoloy	20	Finishing	.00043	.0006	.0010	.05 x Dia	8 x Dia	.0011	.0015	.0019	.0022	.0037	.0045	.10 x Dia	8 x Dia

Hardness: 38-45 Rc (353-421 HBn)														
SMM	Chip Load (MMPT) by Dia				Depth of Cut		Chip Load (MMPT) by Cutter Dia						Depth of Cut	
	0.50	0.75	1.20		Radial	Axial	1.50	2.00	2.50	3.00	5.00	6.00	Radial	Axial
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	Finishing	.0003	.0005	.0008	.05 x Dia	8 x Dia	.0009	.0012	.0015	.0018	.0030	.0036	.10 x Dia	8 x Dia
25	Finishing	.0002	.0003	.0005	.05 x Dia	8 x Dia	.0006	.0008	.0009	.0011	.0019	.0023	.10 x Dia	8 x Dia
30	Finishing	.0003	.0005	.0008	.05 x Dia	8 x Dia	.0009	.0012	.0015	.0018	.0030	.0036	.10 x Dia	8 x Dia
25	Finishing	.0002	.0003	.0005	.05 x Dia	8 x Dia	.0006	.0008	.0009	.0011	.0019	.0023	.10 x Dia	8 x Dia
22	Finishing	.0002	.0003	.0005	.05 x Dia	8 x Dia	.0006	.0008	.0009	.0011	.0019	.0023	.10 x Dia	8 x Dia
15	Finishing	.0002	.0003	.0005	.05 x Dia	8 x Dia	.0006	.0008	.0009	.0011	.0019	.0023	.10 x Dia	8 x Dia