HARVEY TOOL

Speeds & Feeds

Product Table: Drill/End Mills - Helical Tip - 4 Flute
Characteristics: 60°-120° Included Angle, 4 Flutes
Series: 7882xx-C6, 8239xx-C6, 8240xx-C6, 8242xx-C6, 8244xx-C6, 8246xx-C6, 8262xx-C6, 8654xx-C6, 8811xx-C6, 8992xx-C6

Product Notes:

Milling - Presented data reflects slotting application using OD of cutter up to .5x Dia Axial DOC
- Use OD of cutter for Chip Load selection and RPM calculation
- If Axial DOC exceeds .5x Dia, Chip Load and/or Radial DOC must be reduced

Chamfering - Presented data reflects full chamfer engagement on one side of workpiece
- Due to a varying tip diameter, an Effective Cutter Diameter is needed for Chip Load selection and RPM calculation. Consider the major and minor diameters along the actual contact length and average them: (Major Diameter + Minor Diameter)/2
- Depth of Cut is shown as number of Passes with each made using a descending stepover
- Feed rates may be increased (or number of passes decreased) when creating traditional edge breaks

General Notes:

All posted speed and feed parameters are suggested starting values that may be increased given optimal setup conditions. 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 glasses and other appropriate safety equipment in the vicinity of use.

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

MATERIAL	SFM		Chip Load (IPT) By Cutter Diameter												Depth of Cut	
			0.062	0.078	0.093	0.125	0.187	0.250	0.312	0.375	0.500	0.625	0.750	1.000	Radial	Axial
CARBON STEELS	600	Milling	.00023	.00029	.00035	.00047	.00071	.00095	.00118	.00142	.00189	.00236	.00284	.00378	1x Dia	.5x Dia
Free-Machining/Low Carbon steels, 10xx - 1029 & all 10Lxx, 11xx - 1139 & all 11Lxx, 12xx - 1215 & all 12Lxx		Chamfering	.00027	.00034	.00040	.00054	.00081	.00109	.00136	.00163	.00217	.00272	.00326	.00435	3 passes	
1030 - 1095, 1140 - 1151, 13xx, 15xx, 2xxx, 3xxx, 4xxx & 4xLxx, 5xxx & 5xLxx, 50xxx & 50Lxxx, 51xxx & 51Lxxx, 52xxx & 52Lxxx, 6xxx, 8xxx, 9xxx	200	Milling	.00021	.00027	.00032	.00043	.00065	.00086	.00108	.00130	.00173	.00216	.00259	.00346	1x Dia	.5x Dia
		Chamfering	.00025	.00031	.00037	.00050	.00074	.00099	.00124	.00149	.00199	.00248	.00298	.00397	3 passes	
STAINLESS STEELS	450	Milling	.00023	.00029	.00035	.00047	.00071	.00095	.00118	.00142	.00189	.00236	.00284	.00378	1x Dia	.5x Dia
203 EZ, 303 (all types), 416, 416Se, 416 Plus X, 420F, 420FSe, 430F, 430FSe, 440F, 440FSe		Chamfering	.00027	.00034	.00040	.00054	.00081	.00109	.00136	.00163	.00217	.00272	.00326	.00435	3 passes	
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	Milling	.00021	.00027	.00032	.00043	.00065	.00086	.00108	.00130	.00173	.00216	.00259	.00346	1x Dia	.5x Dia
		Chamfering	.00025	.00031	.00037	.00050	.00074	.00099	.00124	.00149	.00199	.00248	.00298	.00397	3 passes	
414, 431, 440A, 440B, 440C, 13-8, 15-5, 15-7, 17-4, 17-7	150	Milling	.00013	.00017	.00020	.00027	.00040	.00054	.00067	.00081	.00108	.00135	.00162	.00216	1x Dia	.5x Dia
		Chamfering	.00015	.00019	.00023	.00031	.00046	.00062	.00078	.00093	.00124	.00155	.00186	.00248	3 passes	
TOOL STEELS	200	Milling	.00021	.00027	.00032	.00043	.00065	.00086	.00108	.00130	.00173	.00216	.00259	.00346	1x Dia	.5x Dia
A, L, O, P, W series		Chamfering	.00025	.00031	.00037	.00050	.00074	.00099	.00124	.00149	.00199	.00248	.00298	.00397	3 passes	
D, H, M, T, S series	150	Milling	.00013	.00017	.00020	.00027	.00040	.00054	.00067	.00081	.00108	.00135	.00162	.00216	1x Dia	.5x Dia
		Chamfering	.00015	.00019	.00023	.00031	.00046	.00062	.00078	.00093	.00124	.00155	.00186	.00248	3 passes	
TITANIUM ALLOYS	150	Milling	.00013	.00017	.00020	.00027	.00040	.00054	.00067	.00081	.00108	.00135	.00162	.00216	1x Dia	.5x Dia
		Chamfering	.00015	.00019	.00023	.00031	.00046	.00062	.00078	.00093	.00124	.00155	.00186	.00248	3 passes	
HIGH TEMP ALLOYS	70	Milling	.00013	.00017	.00020	.00027	.00040	.00054	.00067	.00081	.00108	.00135	.00162	.00216	1x Dia	.5x Dia
Inconel, Hastelloy, Waspalloy, Monel, Nimonic, Haynes, Discoloy, Incoloy		Chamfering	.00015	.00019	.00023	.00031	.00046	.00062	.00078	.00093	.00124	.00155	.00186	.00248	3 passes	

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

SFM		Chip Load (IPT) By Cutter Diameter												Depth of Cut	
		0.062	0.078	0.093	0.125	0.187	0.250	0.312	0.375	0.500	0.625	0.750	1.000	Radial	Axial
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
100	Milling	.00011	.00013	.00016	.00022	.00032	.00043	.00054	.00065	.00086	.00108	.00130	.00173	1x Dia	.5x Dia
	Chamfering	.00025	.00031	.00037	.00050	.00074	.00099	.00124	.00149	.00199	.00248	.00298	.00397	4 passes	
90	Milling	.00007	.00008	.00010	.00014	.00020	.00027	.00034	.00041	.00054	.00068	.00081	.00108	1x Dia	.5x Dia
	Chamfering	.00015	.00019	.00023	.00031	.00046	.00062	.00078	.00093	.00124	.00155	.00186	.00248	4 passes	
100	Milling	.00011	.00013	.00016	.00022	.00032	.00043	.00054	.00065	.00086	.00108	.00130	.00173	1x Dia	.5x Dia
	Chamfering	.00025	.00031	.00037	.00050	.00074	.00099	.00124	.00149	.00199	.00248	.00298	.00397	4 passes	
90	Milling	.00007	.00008	.00010	.00014	.00020	.00027	.00034	.00041	.00054	.00068	.00081	.00108	1x Dia	.5x Dia
	Chamfering	.00015	.00019	.00023	.00031	.00046	.00062	.00078	.00093	.00124	.00155	.00186	.00248	4 passes	
75	Milling	.00007	.00008	.00010	.00014	.00020	.00027	.00034	.00041	.00054	.00068	.00081	.00108	1x Dia	.5x Dia
	Chamfering	.00015	.00019	.00023	.00031	.00046	.00062	.00078	.00093	.00124	.00155	.00186	.00248	4 passes	
50	Milling	.00007	.00008	.00010	.00014	.00020	.00027	.00034	.00041	.00054	.00068	.00081	.00108	1x Dia	.5x Dia
	Chamfering	.00015	.00019	.00023	.00031	.00046	.00062	.00078	.00093	.00124	.00155	.00186	.00248	4 passes	