



Speeds & Feeds

Product Table: End Mills for Hardened Steels - Finishers - Tight Tolerance - Corner Radius
Characteristics: 2 Flutes, Reached, Finishers

Series or Item	Chip Load (MMPT) by Material																			
	Unalloyed Steels <850 N/mm²				Heat-Treated Steels <35 HRC (1200 N/mm²)				Stainless Steels Austenitic/Ferritic 35 - 45 HRC				Hardened Steels 45 - 55 HRC				Hardened Steels 55 - 70 HRC			
	RPM	Feed Rate (mm/min)	Feed (mm/tooth)	Axial DOC (mm)	RPM	Feed Rate (mm/min)	Feed (mm/tooth)	Axial DOC (mm)	RPM	Feed Rate (mm/min)	Feed (mm/tooth)	Axial DOC (mm)	RPM	Feed Rate (mm/min)	Feed (mm/tooth)	Axial DOC (mm)	RPM	Feed Rate (mm/min)	Feed (mm/tooth)	Axial DOC (mm)
682509-C12	40,000	1,500	.018	.026	36,000	1,300	.018	.025	34,000	1,100	.016	.022	30,000	900	.015	.018	28,000	750	.013	.017
683111-C12	35,000	1,600	.022	.018	38,000	1,900	.025	.026	36,000	1,500	.020	.022	32,000	1,100	.018	.020	30,000	880	.015	.016
681511-C12	35,000	1,600	.022	.018	31,000	1,400	.023	.018	30,000	1,100	.018	.015	26,000	800	.016	.012	24,000	630	.013	.012
683413-C12	35,000	2,000	.028	.022	38,000	2,300	.030	.030	26,000	1,800	.025	.028	32,000	1,400	.022	.020	30,000	1,050	.018	.020
682413-C12	35,000	2,000	.028	.022	38,000	2,300	.030	.025	29,000	1,300	.022	.018	26,000	1,000	.020	.016	30,000	1,050	.018	.018
681213-C12	35,000	2,000	.028	.022	32,000	1,800	.028	.020	29,000	1,300	.022	.015	26,000	1,000	.020	.016	24,000	800	.016	.014
680213-C12	35,000	2,000	.028	.015	32,000	1,800	.028	.014	29,000	1,300	.022	.012	26,000	1,000	.020	.010	24,000	800	.016	.008
683818-C12	40,000	1,800	.024	.045	36,000	1,700	.024	.055	34,000	1,400	.022	.050	30,000	1,100	.018	.040	28,000	950	.017	.035
682318-C12	40,000	1,800	.024	.040	36,000	1,700	.024	.050	34,000	1,400	.022	.045	30,000	1,100	.018	.035	28,000	950	.017	.030
683622-C12	36,000	2,500	.035	.065	32,000	2,300	.035	.060	30,000	1,900	.030	.055	27,000	1,500	.028	.055	25,000	1,300	.025	.045
683022-C12	36,000	2,500	.035	.065	32,000	2,300	.035	.060	30,000	1,900	.030	.050	27,000	1,500	.028	.045	25,000	1,300	.025	.040
682222-C12	32,000	2,100	.032	.040	29,000	1,900	.030	.035	27,000	1,700	.030	.030	24,000	1,400	.028	.025	25,000	1,300	.025	.030
681422-C12	32,000	2,100	.032	.040	29,000	1,900	.030	.035	27,000	1,700	.030	.030	24,000	1,400	.028	.025	22,500	1,100	.025	.020
680522-C12	32,000	2,100	.032	.040	29,000	1,900	.030	.035	27,000	1,700	.030	.030	24,000	1,400	.028	.020	22,500	1,100	.025	.020
680122-C12	32,000	2,100	.030	.025	29,000	1,900	.025	.022	27,000	1,700	.030	.020	24,000	1,400	.028	.015	22,500	1,100	.025	.015
682127-C12	32,000	2,100	.032	.040	29,000	1,900	.030	.035	27,000	1,700	.030	.030	24,000	1,400	.028	.025	22,500	1,100	.017	.020
681127-C12	32,000	2,100	.032	.040	29,000	1,900	.030	.035	27,000	1,700	.030	.030	24,000	1,400	.028	.020	22,500	1,100	.017	.020
681631-C12	32,000	2,100	.032	.045	29,000	1,900	.030	.035	27,000	1,700	.030	.030	24,000	1,400	.028	.025	22,500	1,100	.017	.020
682933-C12	27,000	1,600	.030	.060	23,000	1,400	.030	.050	21,000	1,300	.030	.050	20,000	1,200	.030	.040	18,500	900	.025	.040
681833-C12	26,000	1,600	.030	.060	23,000	1,400	.030	.050	21,000	1,300	.030	.045	19,000	1,000	.028	.035	17,500	850	.024	.035
681033-C12	26,000	1,600	.030	.060	23,000	1,400	.030	.050	21,000	1,300	.030	.045	19,000	1,000	.028	.035	17,500	850	.024	.032
680433-C12	25,000	1,600	.030	.060	22,000	1,400	.030	.050	21,000	1,300	.030	.045	19,000	1,000	.028	.035	17,500	850	.024	.032
680033-C12	22,000	1,200	.028	.037	20,000	1,100	.028	.034	19,000	900	.025	.030	17,000	850	.025	.025	16,000	700	.022	.022
681740-C12	26,000	1,600	.030	.060	23,000	1,400	.030	.050	21,000	1,300	.030	.045	19,000	1,000	.028	.035	17,500	850	.024	.032
683545-C12	21,000	2,800	.065	.200	19,000	2,500	.060	.180	18,000	2,400	.065	.140	16,000	1,700	.050	.120	15,000	1,400	.045	.100
682845-C12	21,000	2,800	.068	.140	19,000	2,500	.060	.120	18,000	2,400	.065	.110	16,000	1,700	.050	.090	15,000	1,400	.045	.080
682045-C12	20,000	2,400	.060	.100	17,000	2,000	.060	.070	16,000	2,000	.060	.060	16,000	1,700	.050	.050	15,000	1,400	.045	.060
681345-C12	19,000	2,300	.060	.080	17,000	2,000	.060	.070	16,000	2,000	.060	.060	14,000	1,500	.050	.050	13,000	1,200	.045	.040
680745-C12	19,000	2,300	.060	.080	17,000	2,000	.060	.070	16,000	1,900	.060	.060	14,000	1,500	.050	.050	13,000	1,200	.045	.040
679945-C12	19,000	2,300	.060	.050	17,000	2,000	.060	.040	16,000	1,900	.060	.040	14,000	1,500	.050	.030	13,000	1,200	.045	.030
682745-C12	21,000	2,800	.068	.140	19,000	2,500	.060	.120	18,000	2,400	.065	.110	16,000	1,700	.050	.090	15,000	1,400	.045	.080
680645-C12	19,000	2,300	.060	.080	17,000	2,000	.060	.070	16,000	1,900	.060	.060	14,000	1,500	.050	.050	13,000	1,200	.045	.040
682651-C12	20,000	2,400	.060	.100	17,000	2,000	.060	.070	16,000	2,000	.060	.060	16,000	1,700	.050	.120	12,000	1,200	.045	.045
680351-C12	19,000	2,300	.060	.050	17,000	2,000	.060	.040	16,000	1,900	.060	.040	14,000	1,500	.050	.030	12,000	1,200	.045	.035
679851-C12	17,000	1,800	.050	.025	15,000	1,600	.050	.020	14,000	1,500	.050	.020	13,000	1,250	.048	.016	11,500	900	.040	.020
683357-C12	16,000	2,100	.066	.210	14,000	1,900	.065	.250	13,000	1,700	.065	.160	12,000	1,300	.055	.130	11,000	1,000	.045	.160
680957-C12	14,000	1,700	.060	.120	13,000	1,600	.060	.100	12,000	1,400	.060	.090	11,000	1,150	.054	.070	10,000	950	.045	.070
679757-C12	14,000	1,700	.060	.080	13,000	1,600	.060	.070	12,000	1,400	.060	.050	11,000	1,150	.054	.045	10,000	950	.045	.045
683257-C12	16,000	2,100	.066	.210	14,000	1,900	.065	.250	13,000	1,700	.065	.160	12,000	1,300	.055	.130	11,000	1,000	.045	.160
681957-C12	16,000	2,100	.066	.120	14,000	1,900	.065	.100	13,000	1,700	.065	.160	12,000	1,300	.055	.070	11,000	1,000	.045	.070
680857-C12	14,000	1,700	.060	.120	13,000	1,600	.060	.100	12,000	1,400	.060	.090	11,000	1,150	.054	.070	10,000	950	.045	.070
683761-C12	12,000	2,400	.100	.300	11,000	2,100	.100	.310	10,000	2,000	.100	.250	9,000	1,400	.080	.200	8,500	1,100	.065	.200
683261-C12	12,000	2,400	.100	.250	11,000	2,100	.100	.310	10,000	2,000	.100	.250	9,000	1,400	.080	.200	8,500	1,100	.065	.120
681961-C12	11,000	1,900	.090	.200	11,000	2,100	.100	.200	9,000	1,600	.090	.120	8,000	1,150	.070	.100	7,500	900	.060	.090
680661-C12	9,000	1,600	.090	.100	7,000	1,300	.090	.080	6,500	1,200	.090	.080	6,000	850	.070	.060	5,500	700	.060	.050
682764-C12	9,000	2,300	.120	.350	8,500	2,100	.120	.300	8,000	2,000	.120	.250	7,000	1,400	.100	.200	6,800	1,100	.080	.200
683966-C12	9,000	2,300	.120	.400	9,000	3,200	.180	.400	7,000	2,000	.150	.280	6,000	1,400	.120	.240	5,500	1,100	.100	.250
683266-C12	8,000	2,400	.150	.300	7,000	2,100	.150	.300	7,000	2,000	.150	.250	6,000	1,400	.120	.200	5,500	1,100	.100	.200
681966-C12	8,000	2,200	.140	.250	7,000	2,100	.150	.300	6,000	1,500	.120	.180	5,500	1,150	.100	.150	5,000	900	.090	.140

Please note:
All posted speed and feed parameters are suggested starting values that may be increased given optimal setup conditions. If less than minimum Axial or Radial DOC values are used, increased feed rates are possible. If greater than maximum Axial or Radial DOC values are used, decreased feed rates may be needed.

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.