HARVEY TOOL

Speeds & Feeds

Product Table: Engraving Cutters - Marking Cutters for Ferrous Materials
Characteristics: 2 Flutes

Series or Item	RPM	Chip Load (IPT) by Material												Axial DOC
		Non-Ferrous	Iron			Carbon Steels			Stainless Steels		Titanium		High Temp Alloys	
		Aluminum, Magnesium, Copper Alloys	Cast Iron (< 30 Rc)	Cast Iron (30+ Rc)	Ductile, Malleable	< 29 Rc	30 < 39 Rc	40 < 45 Rc	< 30 Rc	32 < 45 Rc	< 30 Rc	32 < 45 Rc	Inconel, Waspaloy, Monel	
236xx	6000+	.00123	.00123	.00049	.00062	.00075	.00057	.00031	.00062	.00031	.00062	.00031	.00049	< .010
237xx	6000+	.00134	.00134	.00054	.00067	.00082	.00062	.00034	.00067	.00034	.00067	.00034	.00054	< .010
296xx	6000+	.00112	.00112	.00045	.00056	.00068	.00052	.00028	.00056	.00028	.00056	.00028	.00045	< .010
477xx	6000+	.00078	.00078	.00031	.00039	.00048	.00036	.00020	.00039	.00020	.00039	.00020	.00031	< .010
483xx	6000+	.00140	.00140	.00056	.00070	.00085	.00065	.00035	.00070	.00035	.00070	.00035	.00056	< .010
504xx	6000+	.00154	.00154	.00062	.00077	.00094	.00072	.00039	.00077	.00039	.00077	.00039	.00062	< .010
8448xx	6000+	.00118	.00118	.00047	.00059	.00071	.00055	.00029	.00059	.00029	.00059	.00029	.00047	< .010
9397xx	6000+	.00154	.00154	.00062	.00077	.00094	.00072	.00039	.00077	.00039	.00077	.00039	.00062	< .010
9481xx	6000+	.00140	.00140	.00056	.00070	.00085	.00065	.00035	.00070	.00035	.00070	.00035	.00056	< .010
9540xx	6000+	.00098	.00098	.00039	.00049	.00060	.00046	.00025	.00049	.00025	.00049	.00025	.00039	< .010
9578xx	6000+	.00106	.00106	.00043	.00053	.00065	.00049	.00027	.00053	.00027	.00053	.00027	.00043	< .010
9681xx	6000+	.00117	.00117	.00047	.00059	.00071	.00054	.00029	.00059	.00029	.00059	.00029	.00047	< .010
9741xx	6000+	.00118	.00118	.00047	.00059	.00071	.00055	.00029	.00059	.00029	.00059	.00029	.00047	< .010
9766xx	6000+	.00101	.00101	.00040	.00050	.00061	.00047	.00025	.00050	.00025	.00050	.00025	.00040	< .010
9874xx	6000+	.00095	.00095	.00038	.00048	.00058	.00044	.00024	.00048	.00024	.00048	.00024	.00038	< .010
9961xx	6000+	.00098	.00098	.00039	.00049	.00060	.00046	.00025	.00049	.00025	.00049	.00025	.00039	< .010
9955xx	6000+	.00090	.00090	.00036	.00045	.00054	.00042	.00022	.00045	.00022	.00045	.00022	.00036	< .010
9967xx	6000+	.00112	.00112	.00045	.00056	.00068	.00052	.00028	.00056	.00028	.00056	.00028	.00045	< .010
9988xx	6000+	.00168	.00168	.00067	.00084	.00102	.00078	.00042	.00084	.00042	.00084	.00042	.00067	< .010
9239xx	6000+	.00069	.00069	.00027	.00034	.00042	.00032	.00017	.00034	.00017	.00034	.00017	.00027	< .010
9057xx	6000+	.00098	.00098	.00039	.00049	.00060	.00046	.00025	.00049	.00025	.00049	.00025	.00039	< .010
9146xx	6000+	.00108	.00108	.00043	.00054	.00065	.00050	.00027	.00054	.00027	.00054	.00027	.00043	< .010

Please note:

All posted speed and feed parameters are suggested starting values that may be increased given optimal setup conditions (minimal runout is required for best results).

Suggested speed is 6000 rpm or more. Choose an rpm value that creates the least amount of internal machine vibration. In many cases, a speed increaser is helpful.
Posted chip loads reflect axial depths of cut up to .009. For depths of cut = .010" -.015", reduce posted chip loads by 20%. For depths of cut = .016" -.020", reduce posted chip loads by 30%.
Posted chip loads reflect uncoated cutters. Coating is better suited to prolong tool life rather than decrease cycle times.
Posted chip loads reflect HORIZONTAL milling conditions. For VERTICAL plunge milling to depth, reduce posted chip loads by 50% (ramping is preferred to maintain tip integrity).

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**.