DATA FLUTE® | HERITAGE CUTTER

Recommended Speeds — High Performance Carbide

Workpiece Material	ISO Code	Material Hardness	Slotting/Roughing S/R	Heavy Peripheral HP	Peripheral P	Light Peripheral LP	Finishing F
			100%>_≥ 80%DC	80%DC>_≥40%DC	40%DC>_≥25%DC	25%DC>_≥5%DC	_<5%DC
Carbon Steels 10XX, 11xx, 12xx, 13xx	P	Rc≤42 [HRC] 35<Rc≤42 [HRC]	230 -	305 -	360 -	475 -	550 -
Alloy Steels 40xx, 41xx, 42xx, 43xx, 86xx	P	Rc≤35 [HRC] 35<Rc≤42 [HRC]	200 150	265 185	310 220	405 275	465 315
Tool Steels (Annealed) A2, D2, H13, P20, B7	P	Rc<35 [HRC] 35<Rc<42 [HRC]	160 120	210 150	245 180	320 225	370 260
Hardened Steels	H	35<Rc<42 [HRC] 42<Rc<59 [HRC]	90 40	135 75	160 90	225 145	260 165
Cobalt Chrome	H	Rc≤35 [HRC] 35<Rc≤42 [HRC]	140 90	180 125	215 145	275 195	315 225
Austenitic (300) Stainless Steels	M	Rc≤35 [HRC] 35<Rc≤42 [HRC]	200 130	260 170	305 200	395 260	455 295
Ferritic/Martensitic (400 Series) Stainless Steels	M	Rc≤35 [HRC] 35<Rc≤42 [HRC]	220 130	280 170	330 200	420 255	480 295
Precipitation Hardened Stainless Steels	M	Rc≤35 [HRC] 35<Rc≤42 [HRC]	180 -	235 -	280 -	365 -	420 -
Austenitic/Ferritic (Duplex) Stainless Steels	M	Rc≤35 [HRC] 35<Rc≤42 [HRC]	180 -	235 -	280 -	365 -	420 -
Iron Base Alloys	S	Rc≤35 [HRC] 35<Rc≤42 [HRC]	70 -	90 -	105 -	135 -	160 -
Cobalt Base Alloys	S	Rc≤35 [HRC] 35<Rc≤42 [HRC]	50 -	70 -	80 -	115 -	130 -
Nickel Base Alloys	S	Rc≤35 [HRC] 35<Rc≤42 [HRC]	70 40	90 55	105 65	135 90	160 105
Titanium Cast/Wrought	S	Rm≤950 [MPa] Rm>950 [MPa]	160 100	215 140	250 165	335 225	390 260
Gray Cast Irons	K	Rc≤35 [HRC] 35<Rc≤42 [HRC]	200 -	250 -	295 -	370 -	425 -
Malleable Cast Irons	K	Rc<35 [HRC] 35<Rc<42 [HRC]	220 -	275 -	320 -	405 -	465 -
Nodular Cast Irons	K	Rc≤35 [HRC] 35<Rc≤42 [HRC]	180 -	230 -	270 -	340 -	390 -

SSDH Recommended Chip Loads

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			Carbon Steels	Alloy Steels	Tool Steels	Hardened Steels	Cobalt Chrome	Stainless Steels				High Temp Alloys				Cast Irons		
			P	P	P	H	H	M	M	M	M	S	S	S	S	K	K	K
			10xx, 11xx 13xx, 15xx	40xx, 41xx, 42xx 43xx 44xx 46xx	H-13 0-1 A-2 D-2 P20 B7	Rc > 45HRC	F1537 F799 BioDur	Ferritic/ Martensitic	Austenitic	Precipitation Hardened	Duplex Austenitic Ferritic	Titanium Cast/Wrought	Nickel Base Alloys	Iron Base Alloys	Cobalt Base Alloys	Gray Cast Irons	Malleable Cast Irons	Nodular Cast Irons
1/4	**Slotting**	[S]	0.00131	0.00125	0.00108	0.00081	0.00092	0.00119	0.00102	0.00113	0.00113	0.00119	0.00097	0.00097	0.00092	0.00113	0.00113	0.00097
	Heavy Peripheral	[HP]	0.00164	0.00156	0.00135	0.00101	0.00114	0.00149	0.00128	0.00142	0.00142	0.00149	0.00121	0.00121	0.00114	0.00142	0.00142	0.00121
	Peripheral	[P]	0.00179	0.00171	0.00147	0.00110	0.00125	0.00162	0.00139	0.00155	0.00155	0.00162	0.00132	0.00132	0.00125	0.00155	0.00155	0.00132
	Light Peripheral	[LP]	0.00213	0.00203	0.00175	0.00131	0.00149	0.00194	0.00166	0.00184	0.00184	0.00194	0.00158	0.00158	0.00149	0.00184	0.00184	0.00158
5/16	**Slotting**	[S]	0.00164	0.00156	0.00135	0.00101	0.00114	0.00149	0.00128	0.00142	0.00142	0.00149	0.00121	0.00121	0.00114	0.00142	0.00142	0.00121
	Heavy Peripheral	[HP]	0.00205	0.00195	0.00168	0.00126	0.00143	0.00186	0.00159	0.00177	0.00177	0.00186	0.00151	0.00151	0.00143	0.00177	0.00177	0.00151
	Peripheral	[P]	0.00223	0.00213	0.00184	0.00138	0.00156	0.00203	0.00174	0.00193	0.00193	0.00203	0.00165	0.00165	0.00156	0.00193	0.00193	0.00165
	Light Peripheral	[LP]	0.00266	0.00254	0.00219	0.00164	0.00186	0.00242	0.00208	0.00231	0.00231	0.00242	0.00197	0.00197	0.00186	0.00231	0.00231	0.00197
3/8	**Slotting**	[S]	0.00196	0.00188	0.00162	0.00121	0.00137	0.00179	0.00153	0.00170	0.00170	0.00179	0.00145	0.00145	0.00137	0.00170	0.00170	0.00145
	Heavy Peripheral	[HP]	0.00246	0.00234	0.00202	0.00151	0.00172	0.00223	0.00191	0.00213	0.00213	0.00223	0.00182	0.00182	0.00172	0.00213	0.00213	0.00182
	Peripheral	[P]	0.00268	0.00256	0.00220	0.00165	0.00187	0.00244	0.00209	0.00232	0.00232	0.00244	0.00198	0.00198	0.00187	0.00232	0.00232	0.00198
	Light Peripheral	[LP]	0.00320	0.00305	0.00263	0.00197	0.00223	0.00291	0.00249	0.00277	0.00277	0.00291	0.00237	0.00237	0.00223	0.00277	0.00277	0.00237
7/16	**Slotting**	[S]	0.00229	0.00219	0.00189	0.00141	0.00160	0.00208	0.00179	0.00198	0.00198	0.00208	0.00170	0.00170	0.00160	0.00198	0.00198	0.00170
	Heavy Peripheral	[HP]	0.00287	0.00273	0.00236	0.00177	0.00200	0.00260	0.00223	0.00248	0.00248	0.00260	0.00212	0.00212	0.00200	0.00248	0.00248	0.00212
	Peripheral	[P]	0.00313	0.00298	0.00257	0.00193	0.00219	0.00284	0.00244	0.00271	0.00271	0.00284	0.00231	0.00231	0.00219	0.00271	0.00271	0.00231
	Light Peripheral	[LP]	0.00373	0.00356	0.00307	0.00230	0.00261	0.00339	0.00291	0.00323	0.00323	0.00339	0.00276	0.00276	0.00261	0.00323	0.00323	0.00276
1/2	**Slotting**	[S]	0.00262	0.00250	0.00215	0.00162	0.00183	0.00238	0.00204	0.00227	0.00227	0.00238	0.00194	0.00194	0.00183	0.00227	0.00227	0.00194
	Heavy Peripheral	[HP]	0.00327	0.00313	0.00269	0.00202	0.00229	0.00298	0.00255	0.00284	0.00284	0.00298	0.00242	0.00242	0.00229	0.00284	0.00284	0.00242
	Peripheral	[P]	0.00357	0.00341	0.00294	0.00220	0.00250	0.00325	0.00278	0.00309	0.00309	0.00325	0.00264	0.00264	0.00250	0.00309	0.00309	0.00264
	Light Peripheral	[LP]	0.00426	0.00407	0.00351	0.00263	0.00298	0.00387	0.00332	0.00369	0.00369	0.00387	0.00315	0.00315	0.00298	0.00369	0.00369	0.00315
5/8	**Slotting**	[S]	0.00327	0.00313	0.00269	0.00202	0.00229	0.00298	0.00255	0.00284	0.00284	0.00298	0.00242	0.00242	0.00229	0.00284	0.00284	0.00242
	Heavy Peripheral	[HP]	0.00409	0.00391	0.00337	0.00252	0.00286	0.00372	0.00319	0.00354	0.00354	0.00372	0.00303	0.00303	0.00286	0.00354	0.00354	0.00303
	Peripheral	[P]	0.00447	0.00426	0.00367	0.00275	0.00312	0.00406	0.00348	0.00387	0.00387	0.00406	0.00331	0.00331	0.00312	0.00387	0.00387	0.00331
	Light Peripheral	[LP]	0.00533	0.00508	0.00438	0.00329	0.00372	0.00484	0.00415	0.00461	0.00461	0.00484	0.00394	0.00394	0.00372	0.00461	0.00461	0.00394
3/4	**Slotting**	[S]	0.00393	0.00375	0.00323	0.00242	0.00275	0.00357	0.00306	0.00340	0.00340	0.00357	0.00291	0.00291	0.00275	0.00340	0.00340	0.00291
	Heavy Peripheral	[HP]	0.00491	0.00469	0.00404	0.00303	0.00343	0.00447	0.00383	0.00425	0.00425	0.00447	0.00364	0.00364	0.00343	0.00425	0.00425	0.00364
	Peripheral	[P]	0.00536	0.00512	0.00441	0.00331	0.00375	0.00487	0.00418	0.00464	0.00464	0.00487	0.00397	0.00397	0.00375	0.00464	0.00464	0.00397
	Light Peripheral	[LP]	0.00639	0.00610	0.00526	0.00394	0.00447	0.00581	0.00498	0.00553	0.00553	0.00581	0.00473	0.00473	0.00447	0.00553	0.00553	0.00473
1	**Slotting**	[S]	0.00524	0.00500	0.00431	0.00323	0.00366	0.00476	0.00408	0.00454	0.00454	0.00476	0.00388	0.00388	0.00366	0.00454	0.00454	0.00388
	Heavy Peripheral	[HP]	0.00655	0.00625	0.00539	0.00404	0.00458	0.00595	0.00510	0.00567	0.00567	0.00595	0.00485	0.00485	0.00458	0.00567	0.00567	0.00485
	Peripheral	[P]	0.00715	0.00682	0.00588	0.00441	0.00500	0.00650	0.00557	0.00619	0.00619	0.00650	0.00529	0.00529	0.00500	0.00619	0.00619	0.00529
	Light Peripheral	[LP]	0.00852	0.00814	0.00701	0.00526	0.00596	0.00775	0.00664	0.00738	0.00738	0.00775	0.00631	0.00631	0.00596	0.00738	0.00738	0.00631

SSDH