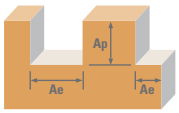
S-CARB H5



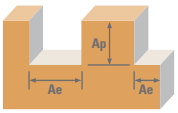
	Material Classification	Hardness		Ae x DC	Ap x DC	Vc (sfm)		DC • in 3/8	1/2	5/8	3/4
N	**ALUMINUM ALLOYS 2024, 5052, 5086, 6061, 6073, 7075**	≤ 150 Bhn or ≤ 88 HRb	Profile	≤ 0.25	≤ APMX	2475	RPM	25212	18909	15127	12606
						(1980-2970)	Fz	0.0049	0.0069	0.0077	0.0084
							Feed (ipm)	618	652	582	529
			Slot	1	≤ 1	1650	RPM	16808	12606	10085	8404
						(1320-1980)	Fz	0.0042	0.0060	0.0066	0.0073
							Feed (ipm)	353	378	333	307
			5° Ramp	1	≤ 0.5	1812	RPM	18458	13844	11075	9229
						(1450-2174)	Fz	0.0030	0.0042	0.0046	0.0051
							Feed (ipm)	277	291	255	235
	ALUMINUM DIE CAST ALLOYS (HIGH SILICON) A-390, A-392, B- 390	≤ 125 Bhn or ≤ 77 HRb	Profile	≤ 0.25	≤ APMX	990	RPM	10085	7564	6051	5042
						(792-1188)	Fz	0.0049	0.0069	0.0077	0.0084
							Feed (ipm)	247	261	233	212
			Slot	1	≤ 0.5	660	RPM	6723	5042	4034	3362
						(528-792)	Fz	0.0042	0.0060	0.0066	0.0073
							Feed (ipm)	141	151	133	123
			5° Ramp	1	≤ 0.5	725	RPM	7385	5539	4431	3693
						(580-870)	Fz	0.0030	0.0042	0.0046	0.0051
							Feed (ipm)	111	116	102	94
	COPPER ALLOYS Aluminum Bronze Brass Naval Brass Red Brass	≤ 140 Bhn or ≤ 3 HRc	Profile	≤ 0.25	≤ APMX	660	RPM	6723	5042	4034	3362
						(528-792)	Fz	0.0040	0.0058	0.0064	0.0069
							Feed (ipm)	134	146	129	116
			Slot	1	≤ 0.5	440	RPM	4482	3362	2689	2241
						(352-528)	Fz	0.0035	0.0050	0.0055	0.0060
							Feed (ipm)	78	84	74	67
			5° Ramp	1	≤ 0.5	483	RPM	4920	3690	2952	2460
						(386-580)	Fz	0.0024	0.0035	0.0038	0.0042
							Feed (ipm)	59	65	56	52
	COPPER ALLOYS Beryllium Copper C110, Manganese Bronze, Tin Bronze	≤ 200 Bhn or ≤ 23 HRc	Profile	≤ 0.25	≤ APMX	528	RPM	5379	4034	3227	2689
						(422-634)	Fz	0.0040	0.0058	0.0064	0.0069
							Feed (ipm)	108	117	103	93
			Slot	1	≤ 0.5	352	RPM	3586	2689	2151	1793
						(282-422)	Fz	0.0035	0.0050	0.0055	0.0060
							Feed (ipm)	63	67	59	54
			5° Ramp	1	≤ 0.5	386	RPM	3932	2949	2359	1966
						(309-463)	Fz	0.0024	0.0035	0.0038	0.0042
							Feed (ipm)	47	52	45	41

Bhn (Brinell) HRc (Rockwell C)
rpm = sfm x 3.82 / DC
ipm = Fz x 5 x rpm
reduce speed and feed for materials harder than listed
reduce feed and Ae when finish milling (.02 x DC maximum)

APEX

Refer to the SGS APEX: Application Expert for complete technical information
www.kyocera-sgstool.com/apex

S-CARB H5



	Material Classification	Hardness		Ae x DC	Ap x DC	Vc (m/min)		DC • mm 10,0	12,0	16,0	20,0
N	**ALUMINUM ALLOYS 2024, 5052, 5086, 6061, 6073, 7075**	≤ 150 Bhn or ≤ 88 HRb	Profile	≤ 0.25	≤ APMX	754	RPM	24024	20020	15015	12012
						(603-905)	Fz	0.1319	0.1644	0.1974	0.2180
							Feed (mm/min)	15844	16456	14820	13093
			Slot	1	≤ 1	503	RPM	16019	13349	10012	8010
						(402-604)	Fz	0.1142	0.1424	0.1687	0.1888
							Feed (mm/min)	9147	9505	8445	7561
			5° Ramp	1	≤ 0.5	552	RPM	17580	14650	10987	8790
						(442-662)	Fz	0.0799	0.0997	0.1181	0.1322
							Feed (mm/min)	7023	7303	6488	5810
	ALUMINUM DIE CAST ALLOYS (HIGH SILICON) A-390, A-392, B- 390	≤ 125 Bhn or ≤ 77 HRb	Profile	≤ 0.25	≤ APMX	302	RPM	9618	8015	6011	4809
						(242-362)	Fz	0.1319	0.1644	0.1974	0.2180
							Feed (mm/min)	6343	6588	5933	5242
			Slot	1	≤ 0.5	201	RPM	6401	5334	4001	3201
						(161-241)	Fz	0.1142	0.1424	0.1687	0.1888
							Feed (mm/min)	3655	3798	3375	3021
			5° Ramp	1	≤ 0.5	221	RPM	7038	5865	4399	3519
						(177-265)	Fz	0.0799	0.0997	0.1181	0.1322
							Feed (mm/min)	2812	2924	2598	2326
	COPPER ALLOYS Aluminum Bronze Brass Naval Brass Red Brass	≤ 140 Bhn or ≤ 3 HRc	Profile	≤ 0.25	≤ APMX	201	RPM	6401	5334	4001	3201
						(161-241)	Fz	0.1088	0.1368	0.1617	0.1803
							Feed (mm/min)	3482	3649	3235	2885
			Slot	1	≤ 0.5	134	RPM	4268	3556	2667	2134
						(107-161)	Fz	0.0943	0.1184	0.1400	0.1561
							Feed (mm/min)	2012	2105	1867	1665
			5° Ramp	1	≤ 0.5	147	RPM	4682	3901	2926	2341
						(118-176)	Fz	0.0660	0.0829	0.0980	0.1093
							Feed (mm/min)	1545	1617	1434	1279
	COPPER ALLOYS Beryllium Copper C110, Manganese Bronze, Tin Bronze	≤ 200 Bhn or ≤ 23 HRc	Profile	≤ 0.25	≤ APMX	162	RPM	5159	4299	3225	2580
						(130-194)	Fz	0.1088	0.1368	0.1617	0.1803
							Feed (mm/min)	2807	2941	2607	2326
			Slot	1	≤ 0.5	108	RPM	3439	2866	2150	1720
						(86-130)	Fz	0.0943	0.1184	0.1400	0.1561
							Feed (mm/min)	1622	1697	1505	1342
			5° Ramp	1	≤ 0.5	118	RPM	3758	3132	2349	1879
						(94-142)	Fz	0.0660	0.0889	0.0965	0.1067
							Feed (mm/min)	1240	1392	1133	1002

Bhn (Brinell) HRc (Rockwell C)
rpm = (Vc x 1000) / (DC x 3.14)
mm/min = Fz x 5 x rpm
reduce speed and feed for materials harder than listed
reduce feed and Ae when finish milling (.02 x DC maximum)

APEX

Refer to the SGS APEX: Application Expert for complete technical information
www.kyocera-sgstool.com/apex