



High Performance End Mills

X7 BALIQ® ALCRONOS Coating (AlCrN)

G7 BALIQ® TISINOS PRO Coating (AlTiSiN)

X7 Target Materials:

Stainless Steel (Inox, Austenitic/Martensitic)

Carbon Tools Steels (Up to 50 HRC)

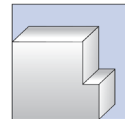
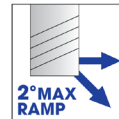
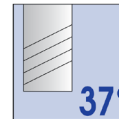
Cast Iron

G7 Target Materials:

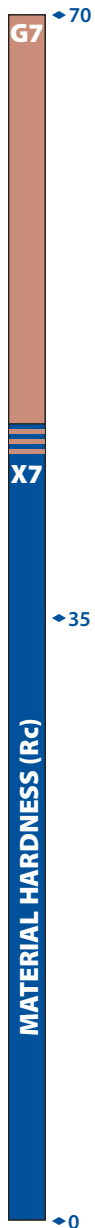
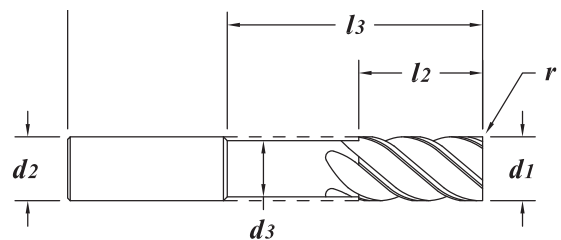
Heat Resistant Super Alloys

PH Stainless Steels (Inox, 13-8, 15-5, 17-4, Martensitic)

Conditioned Tool Steels (50-70 HRC)



CALCULATE IDEAL PARAMETERS
FOR THE X7 AND G7 IN YOUR
APPLICATION WITH THE GARR
TECHNICAL ADVISOR



X7

G7



← View the X7

View the G7 →

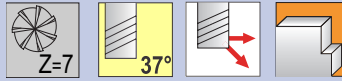


TOLERANCES

d_1	+0.00" - .002" (+.000mm - .050mm)
d_2	h6
r	+0.001" - .001" (+.025 - .025mm)

HIGH EFFICIENCY MILLING

Series X7, G7



.3150" - .4724"
(8.000mm - 12.000mm)

X7 Recommended for Low, Medium, and High Carbon Tool Steels (up to 50 HRC), cast iron, and stainless steel (Inox).

G7 Recommended for tough machining materials such as Heat Resistant Super Alloys,
PH Stainless steels (Inox), and conditioned tool steels. (50-70 HRC)

7 Flute High Performance End Mills

X7* BALIQ® ALCRONOS Coating (AlCrN-based)

G7 BALIQ® TISINOS PRO Coating (AlTiSiN)

Solid submicron grain carbide - non-center cutting

h6 shank tolerance

Engineered for High Efficiency Milling

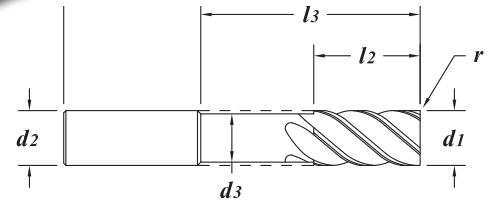
Variable flute grind

Honed edge treatment

Polished fluting

Material and condition specific coatings

*Previously named VX-7; now polished.



X7 EDP#	G7 EDP#	d_1 † Diameter		d_2 Shank Diameter	l_1 Overall Length	l_2 Flute Length	r Corner Radius	l_3 Reach Length	d_3 Neck Diameter	1-11	12-24	25-49	50-100	
		Decimal	Metric											
64100	64500	.3150"	8.000	8	65	22	-	-	-	53.99	51.64	49.30	46.95	
64102	64501	.3150"	8.000	8	65	22	0.50	-	-	59.48	56.89	54.31	51.72	
64104	64502	.3150"	8.000	8	65	22	1.00	-	-	59.48	56.89	54.31	51.72	
64105	64503	.3150"	8.000	8	75	27	1.60	-	-	72.94	69.77	66.60	63.43	
64106	64504	.3150"	8.000	8	75	32	-	-	-	66.75	63.85	60.95	58.04	
64108	64505	.3150"	8.000	8	75	32	0.50	-	-	72.94	69.77	66.60	63.43	
64110	64506	.3150"	8.000	8	75	32	1.00	-	-	72.94	69.77	66.60	63.43	
64267	64507	.3750"	3/8"	9.525	3/8"	2"	5/8"	-	-	49.94	47.77	45.60	43.43	
64268	64508	.3750"	3/8"	9.525	3/8"	2"	5/8"	.010"	-	57.05	54.57	52.09	49.61	
64269	64509	.3750"	3/8"	9.525	3/8"	2"	5/8"	.015"	-	57.05	54.57	52.09	49.61	
64270	64510	.3750"	3/8"	9.525	3/8"	2"	5/8"	.020"	-	57.05	54.57	52.09	49.61	
64271	64511	.3750"	3/8"	9.525	3/8"	2"	5/8"	.030"	-	57.05	54.57	52.09	49.61	
64112	64512	.3750"	3/8"	9.525	3/8"	2-1/2"	1"	-	-	58.67	56.12	53.57	51.02	
64114	64513	.3750"	3/8"	9.525	3/8"	2-1/2"	1"	.020"	-	64.24	61.45	58.65	55.86	
64116	64514	.3750"	3/8"	9.525	3/8"	2-1/2"	1"	.030"	-	64.24	61.45	58.65	55.86	
64117	64515	.3750"	3/8"	9.525	3/8"	3"	1"	.025"	-	78.14	74.74	71.34	67.95	
64118	64516	.3750"	3/8"	9.525	3/8"	3"	1-1/2"	-	-	70.76	67.68	64.61	61.53	
64120	64517	.3750"	3/8"	9.525	3/8"	3"	1-1/2"	.020"	-	78.14	74.74	71.34	67.95	
64122	64518	.3750"	3/8"	9.525	3/8"	3"	1-1/2"	.030"	-	78.14	74.74	71.34	67.95	
64123	64519	.3750"	3/8"	9.525	3/8"	3"	1-1/2"	.060"	-	78.14	74.74	71.34	67.95	
64246	64520	.3750"	3/8"	9.525	3/8"	4"	7/8"	.015"	1-7/8"	.355"	101.71	97.29	92.87	88.44
64124	64521	.3937"	10.000	10	70	25	-	-	-	68.70	65.71	62.73	59.74	
64126	64522	.3937"	10.000	10	70	25	0.50	-	-	75.83	72.53	69.24	65.94	
64128	64523	.3937"	10.000	10	70	25	1.00	-	-	75.83	72.53	69.24	65.94	
64130	64524	.4724"	12.000	12	75	26	-	-	-	82.48	78.89	75.31	71.72	
64132	64525	.4724"	12.000	12	75	26	0.50	-	-	100.42	96.05	91.69	87.32	
64134	64526	.4724"	12.000	12	75	26	1.00	-	-	100.42	96.05	91.69	87.32	
64136	64527	.4724"	12.000	12	75	32	-	-	-	82.48	78.89	75.31	71.72	
64138	64528	.4724"	12.000	12	75	32	0.50	-	-	100.42	96.05	91.69	87.32	
64140	64529	.4724"	12.000	12	75	32	1.00	-	-	100.42	96.05	91.69	87.32	
64141	64530	.4724"	12.000	12	100	42	1.00	-	-	121.80	116.50	111.21	105.91	
64142	64531	.4724"	12.000	12	100	50	-	-	-	110.76	105.94	101.13	96.31	
64144	64532	.4724"	12.000	12	100	50	0.50	-	-	121.80	116.50	111.21	105.91	
64146	64533	.4724"	12.000	12	100	50	1.00	-	-	121.80	116.50	111.21	105.91	

continued →

HIGH PERFORMANCE
END MILLS

G7

X7

35

MATERIAL HARDNESS (RC)

0

Series X7, G7 (continued)

.5000" - .6250"
(12.700mm - 15.875mm)

X7 EDP#	G7 EDP#	d1 † Diameter		d2 Shank Diameter	l1 Overall Length	l2 Flute Length	r Corner Radius	l3 Reach Length	d3 Neck Diameter	1-11	12-24	25-49	50-100	
		Decimal	Metric											
64218	64534	.5000"	1/2"	12.700	1/2"	2-1/2"	5/8"	-	-	77.07	73.72	70.37	67.02	
64220	64535	.5000"	1/2"	12.700	1/2"	2-1/2"	5/8"	.015"	-	89.80	85.90	81.99	78.09	
64222	64536	.5000"	1/2"	12.700	1/2"	2-1/2"	5/8"	.030"	-	89.80	85.90	81.99	78.09	
64223	64537	.5000"	1/2"	12.700	1/2"	2-1/2"	5/8"	.060"	-	89.80	85.90	81.99	78.09	
64224	64538	.5000"	1/2"	12.700	1/2"	3"	1"	-	-	80.10	76.62	73.13	69.65	
64226	64539	.5000"	1/2"	12.700	1/2"	3"	1"	.015"	-	97.27	93.04	88.81	84.58	
64228	64540	.5000"	1/2"	12.700	1/2"	3"	1"	.030"	-	97.27	93.04	88.81	84.58	
64148	64541	.5000"	1/2"	12.700	1/2"	3"	1-1/4"	-	-	80.10	76.62	73.13	69.65	
64150	64542	.5000"	1/2"	12.700	1/2"	3"	1-1/4"	.015"	-	97.27	93.04	88.81	84.58	
64152	64543	.5000"	1/2"	12.700	1/2"	3"	1-1/4"	.020"	-	97.27	93.04	88.81	84.58	
64154	64544	.5000"	1/2"	12.700	1/2"	3"	1-1/4"	.030"	-	97.27	93.04	88.81	84.58	
64156	64545	.5000"	1/2"	12.700	1/2"	3"	1-1/4"	.060"	-	97.27	93.04	88.81	84.58	
64157	64546	.5000"	1/2"	12.700	1/2"	3"	1-1/4"	.125"	-	97.27	93.04	88.81	84.58	
64158	64547	.5000"	1/2"	12.700	1/2"	3-1/2"	1-1/2"	-	-	104.17	99.64	95.11	90.58	
64160	64548	.5000"	1/2"	12.700	1/2"	3-1/2"	1-1/2"	.030"	-	114.82	109.83	104.84	99.84	
64161	64549	.5000"	1/2"	12.700	1/2"	4"	5/8"	.015"	2-1/8"	.475"	128.62	123.03	117.44	111.84
64242	64550	.5000"	1/2"	12.700	1/2"	4"	1-5/8"	-	-	106.87	102.22	97.58	92.93	
64244	64551	.5000"	1/2"	12.700	1/2"	4"	1-5/8"	.015"	-	117.52	112.41	107.30	102.19	
64162	64552	.5000"	1/2"	12.700	1/2"	4"	2"	-	-	106.87	102.22	97.58	92.93	
64163	64553	.5000"	1/2"	12.700	1/2"	4"	2"	.015"	-	117.52	112.41	107.30	102.19	
64164	64554	.5000"	1/2"	12.700	1/2"	4"	2"	.030"	-	117.52	112.41	107.30	102.19	
64165	64555	.5000"	1/2"	12.700	1/2"	4"	2"	.125"	-	117.52	112.41	107.30	102.19	
64248	64556	.5512"	14	14.000	14	88	32	0.50	-	143.31	137.08	130.85	124.62	
64273	64557	.6250"	5/8"	15.875	5/8"	3"	1"	-	-	131.20	125.50	119.79	114.09	
64274	64558	.6250"	5/8"	15.875	5/8"	3"	1"	.015"	-	143.65	137.40	131.16	124.91	
64275	64559	.6250"	5/8"	15.875	5/8"	3"	1"	.030"	-	143.65	137.40	131.16	124.91	
64166	64560	.6250"	5/8"	15.875	5/8"	3-1/2"	1-1/4"	-	-	135.99	130.08	124.16	118.25	
64276	64561	.6250"	5/8"	15.875	5/8"	3-1/2"	1-1/4"	.015"	-	148.65	142.19	135.72	129.26	
64320	64639	.6250"	5/8"	15.875	5/8"	3-1/2"	1-1/4"	.020"	-	148.65	142.19	135.72	129.26	
64168	64562	.6250"	5/8"	15.875	5/8"	3-1/2"	1-1/4"	.030"	-	148.65	142.19	135.72	129.26	
64170	64563	.6250"	5/8"	15.875	5/8"	3-1/2"	1-1/4"	.060"	-	148.65	142.19	135.72	129.26	
64171	64564	.6250"	5/8"	15.875	5/8"	3-1/2"	1-1/4"	.120"	-	148.65	142.19	135.72	129.26	
64277	64565	.6250"	5/8"	15.875	5/8"	3-1/2"	1-1/2"	-	-	135.99	130.08	124.16	118.25	
64278	64566	.6250"	5/8"	15.875	5/8"	3-1/2"	1-1/2"	.015"	-	148.65	142.19	135.72	129.26	
64279	64567	.6250"	5/8"	15.875	5/8"	3-1/2"	1-1/2"	.030"	-	148.65	142.19	135.72	129.26	
64280	64568	.6250"	5/8"	15.875	5/8"	3-1/2"	1-1/2"	.060"	-	148.65	142.19	135.72	129.26	
64281	64569	.6250"	5/8"	15.875	5/8"	3-1/2"	1-5/8"	-	-	135.99	130.08	124.16	118.25	
64282	64570	.6250"	5/8"	15.875	5/8"	3-1/2"	1-5/8"	.015"	-	148.65	142.19	135.72	129.26	
64283	64571	.6250"	5/8"	15.875	5/8"	3-1/2"	1-5/8"	.030"	-	148.65	142.19	135.72	129.26	
64284	64572	.6250"	5/8"	15.875	5/8"	3-1/2"	1-5/8"	.060"	-	148.65	142.19	135.72	129.26	
64172	64573	.6250"	5/8"	15.875	5/8"	4"	1-3/4"	-	-	143.18	136.95	130.73	124.50	
64285	64574	.6250"	5/8"	15.875	5/8"	4"	1-3/4"	.015"	-	156.71	149.90	143.08	136.27	
64174	64575	.6250"	5/8"	15.875	5/8"	4"	1-3/4"	.030"	-	156.71	149.90	143.08	136.27	
64176	64576	.6250"	5/8"	15.875	5/8"	4"	1-3/4"	.060"	-	156.71	149.90	143.08	136.27	
64321	64640	.6250"	5/8"	15.875	5/8"	4"	1-3/4"	.090"	-	156.71	149.90	143.08	136.27	
64177	64577	.6250"	5/8"	15.875	5/8"	4"	1-3/4"	.120"	-	156.71	149.90	143.08	136.27	
64286	64578	.6250"	5/8"	15.875	5/8"	4"	2"	-	-	143.18	136.95	130.73	124.50	
64287	64579	.6250"	5/8"	15.875	5/8"	4"	2"	.015"	-	156.71	149.90	143.08	136.27	
64288	64580	.6250"	5/8"	15.875	5/8"	4"	2"	.030"	-	156.71	149.90	143.08	136.27	
64289	64581	.6250"	5/8"	15.875	5/8"	4"	2"	.060"	-	156.71	149.90	143.08	136.27	
64250	64582	.6250"	5/8"	15.875	5/8"	4"	2"	.120"	-	156.71	149.90	143.08	136.27	
64323	64641	.6250"	5/8"	15.875	5/8"	4"	2-1/8"	.125"	-	156.71	149.90	143.08	136.27	
64324	64642	.6250"	5/8"	15.875	5/8"	5"	2-1/2"	-	-	187.34	179.19	171.05	162.90	
64325	64643	.6250"	5/8"	15.875	5/8"	5"	2-1/2"	.125"	-	204.69	195.79	186.89	177.99	

G7 70
X7 35
MATERIAL HARDNESS (Rc) 0

Series X7, G7 (continued)

.6299" - 1.000"
(16.000mm - 25.400mm)

HIGH PERFORMANCE
END MILLS

X7 EDP#	G7 EDP#	d_1 † Diameter		d_2 Shank Diameter	l_1 Overall Length	l_2 Flute Length	r Corner Radius	l_3 Reach Length	d_3 Neck Diameter	1-11	12-24	25-49	50-100
		Decimal	Metric										
64178	64583	.6299"	16.000	16	88	32	-	-	-	145.51	139.18	132.86	126.53
64180	64584	.6299"	16.000	16	88	32	0.50	-	-	158.64	151.74	144.84	137.95
64182	64585	.6299"	16.000	16	88	32	1.00	-	-	158.64	151.74	144.84	137.95
64230	64586	.6299"	16.000	16	88	32	2.00	-	-	158.64	151.74	144.84	137.95
64290	64587	.6299"	16.000	16	100	40	-	-	-	151.64	145.05	138.45	131.86
64291	64588	.6299"	16.000	16	100	40	0.50	-	-	166.49	159.25	152.01	144.77
64231	64589	.6299"	16.000	16	100	40	1.00	-	-	166.49	159.25	152.01	144.77
64232	64590	.6299"	16.000	16	100	40	1.50	-	-	166.49	159.25	152.01	144.77
64292	64591	.6299"	16.000	16	100	50	-	-	-	151.64	145.05	138.45	131.86
64283	64592	.6299"	16.000	16	100	50	0.50	-	-	166.49	159.25	152.01	144.77
64294	64593	.6299"	16.000	16	100	50	1.00	-	-	166.49	159.25	152.01	144.77
64234	64594	.6299"	16.000	16	125	65	0.50	-	-	209.33	200.23	191.13	182.03
64236	64595	.6299"	16.000	16	125	65	3.00	-	-	209.33	200.23	191.13	182.03
64252	64596	.7500"	19.050	3/4"	3"	1"	-	-	-	176.90	169.21	161.52	153.83
64254	64597	.7500"	19.050	3/4"	3"	1"	.030"	-	-	195.07	186.59	178.11	169.63
64184	64598	.7500"	19.050	3/4"	4"	1-1/2"	-	-	-	186.22	178.12	170.03	161.93
64186	64599	.7500"	19.050	3/4"	4"	1-1/2"	.030"	-	-	204.72	195.82	186.92	178.02
64188	64600	.7500"	19.050	3/4"	4"	1-1/2"	.060"	-	-	204.72	195.82	186.92	178.02
64190	64601	.7500"	19.050	3/4"	4"	1-1/2"	.120"	-	-	204.72	195.82	186.92	178.02
64295	64602	.7500"	19.050	3/4"	4"	1-5/8"	-	-	-	186.22	178.12	170.03	161.93
64296	64603	.7500"	19.050	3/4"	4"	1-5/8"	.015"	-	-	204.72	195.82	186.92	178.02
64297	64604	.7500"	19.050	3/4"	4"	1-5/8"	.030"	-	-	204.72	195.82	186.92	178.02
64298	64605	.7500"	19.050	3/4"	4"	1-5/8"	.060"	-	-	204.72	195.82	186.92	178.02
64299	64606	.7500"	19.050	3/4"	4"	1-5/8"	.090"	-	-	204.72	195.82	186.92	178.02
64301	64607	.7500"	19.050	3/4"	4"	1-5/8"	.125"	-	-	204.72	195.82	186.92	178.02
64303	64608	.7500"	19.050	3/4"	4"	1-5/8"	.190"	-	-	204.72	195.82	186.92	178.02
64305	64609	.7500"	19.050	3/4"	4"	1-5/8"	.250"	-	-	204.72	195.82	186.92	178.02
64256	64610	.7500"	19.050	3/4"	4"	1-3/4"	-	-	-	186.22	178.12	170.03	161.93
64258	64611	.7500"	19.050	3/4"	4"	1-3/4"	.030"	-	-	204.72	195.82	186.92	178.02
64260	64612	.7500"	19.050	3/4"	5"	1"	.030"	3"	.730"	288.37	275.83	263.29	250.76
64192	64613	.7500"	19.050	3/4"	5"	2-1/4"	-	-	-	245.23	234.57	223.90	213.24
64194	64614	.7500"	19.050	3/4"	5"	2-1/4"	.030"	-	-	277.27	265.21	253.16	241.10
64238	64615	.7500"	19.050	3/4"	5"	2-1/4"	.060"	-	-	277.27	265.21	253.16	241.10
64262	64616	.7500"	19.050	3/4"	5"	2-1/4"	.120"	-	-	277.27	265.21	253.16	241.10
64307	64617	.7500"	19.050	3/4"	5"	2-1/4"	.125"	-	-	277.27	265.21	253.16	241.10
64264	64618	.7500"	19.050	3/4"	5"	2-1/2"	.060"	-	-	277.27	265.21	253.16	241.10
64266	64619	.7500"	19.050	3/4"	6"	1-1/8"	.120"	3-5/8"	.730"	336.93	322.28	307.63	292.98
64196	64620	.7500"	19.050	3/4"	6"	3-1/4"	-	-	-	287.04	274.56	262.08	249.60
64198	64621	.7500"	19.050	3/4"	6"	3-1/4"	.030"	-	-	325.81	311.64	297.48	283.31
64309	64622	.7500"	19.050	3/4"	6"	3-1/4"	.060"	-	-	325.81	311.64	297.48	283.31
64311	64623	.7500"	19.050	3/4"	6"	3-1/4"	.125"	-	-	325.81	311.64	297.48	283.31
64200	64624	.7874"	20.000	20	100	38	-	-	-	249.19	238.36	227.52	216.69
64202	64625	.7874"	20.000	20	100	38	0.50	-	-	285.07	272.68	260.28	247.89
64204	64626	.7874"	20.000	20	100	38	1.00	-	-	285.07	272.68	260.28	247.89
64313	64627	.7874"	20.000	20	100	50	-	-	-	249.19	238.36	227.52	216.69
64315	64628	.7874"	20.000	20	100	50	0.50	-	-	285.07	272.68	260.28	247.89
64317	64629	.7874"	20.000	20	100	50	1.00	-	-	285.07	272.68	260.28	247.89
64206	64630	1.000"	25.400	1.00"	4"	1-1/2"	-	-	-	270.81	259.04	247.26	235.49
64208	64631	1.000"	25.400	1.00"	4"	1-1/2"	.030"	-	-	334.04	319.52	304.99	290.47
64319	64632	1.000"	25.400	1.0"	4"	1-1/2"	.060"	-	-	334.04	319.52	304.99	290.47
64240	64633	1.000"	25.400	1.00"	4"	1-1/2"	.125"	-	-	334.04	319.52	304.99	290.47
64210	64634	1.000"	25.400	1.00"	5"	2"	-	-	-	353.38	338.02	322.65	307.29
64212	64635	1.000"	25.400	1.00"	5"	2-1/2"	-	-	-	353.38	338.02	322.65	307.29
64213	64636	1.000"	25.400	1.00"	5"	2-1/2"	.030"	-	-	406.56	388.88	371.21	353.53
64214	64637	1.000"	25.400	1.00"	6"	3-1/4"	-	-	-	450.47	430.88	411.30	391.71
64216	64638	1.000"	25.400	1.00"	6"	3-1/4"	.030"	-	-	515.95	493.52	471.08	448.65

70 → G7

X7

35 →

MATERIAL HARDNESS (Rc)

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