

**RFCB443 - Multi Flute Single-End Non-Center Cutting Chipbreaker Cobalt End Mills****September 2005 Pricing**

Flute Dia	Shank Dia	Length of Cut	Overall Length	# F	Uncoated EDP	Uncoated List	TIN EDP	TIN List	TICN EDP	TICN List	TiAlN EDP	TiAlN List
3/16	3/8	1/2	2 3/8	4	33327	\$24.42	33328	\$25.65	33329	\$26.88	30488	\$26.88
1/4	3/8	5/8	2 7/16	4	33330	\$24.42	33331	\$25.65	33332	\$26.88	30489	\$26.88
1/4	3/8	1 1/4	3 1/16	4	33333	\$27.44	33334	\$28.78	33335	\$30.24	30490	\$30.24
5/16	3/8	3/4	2 1/2	4	33336	\$24.42	33337	\$25.65	33338	\$26.88	30491	\$26.88
5/16	3/8	1 3/8	3 1/8	4	33339	\$27.44	33340	\$28.78	33341	\$30.24	30492	\$30.24
3/8	3/8	3/4	2 1/2	4	33342	\$24.42	33343	\$25.65	33344	\$26.88	30493	\$26.88
3/8	3/8	1 1/2	3 1/4	4	33345	\$27.44	33346	\$28.78	33347	\$30.24	30494	\$30.24
7/16	3/8	1	2 11/16	4	33348	\$35.17	33349	\$36.96	33350	\$38.64	30495	\$38.64
1/2	1/2	1	3	4	33351	\$30.80	33352	\$32.37	33353	\$33.94	30496	\$33.94
1/2	1/2	1 1/4	3 1/4	4	33354	\$32.03	33355	\$33.60	33356	\$35.28	30497	\$35.28
1/2	1/2	1 5/8	3 5/8	4	33357	\$37.30	33358	\$39.20	33359	\$40.99	30498	\$40.99
1/2	1/2	2	4	4	33360	\$42.67	33361	\$44.80	33362	\$46.93	30499	\$46.93
1/2	1/2	2 1/2	4 1/2	4	33363	\$47.04	33364	\$49.39	33365	\$51.74	30500	\$51.74
1/2	1/2	3	5	4	33366	\$48.16	33367	\$50.62	33368	\$52.98	30501	\$52.98
9/16	1/2	1 3/8	3 3/8	4	33369	\$35.95	33370	\$37.74	33371	\$39.54	30502	\$39.54
5/8	5/8	3/4	2 7/8	4	33372	\$34.05	33373	\$35.73	33374	\$37.41	30503	\$37.41
5/8	5/8	1 1/4	3 3/8	4	33375	\$35.28	33376	\$37.07	33377	\$38.86	30504	\$38.86
5/8	5/8	1 5/8	3 3/4	4	33378	\$38.86	33379	\$40.77	33380	\$42.78	30505	\$42.78
5/8	5/8	2 1/8	4 1/4	4	33381	\$46.37	33382	\$48.72	33383	\$50.96	30506	\$50.96
5/8	5/8	2 1/2	4 5/8	4	33384	\$50.18	33385	\$52.64	33386	\$55.22	30507	\$55.22
5/8	5/8	3 1/8	5 1/4	4	33387	\$59.58	33388	\$62.61	33389	\$65.52	30508	\$65.52
11/16	5/8	1 5/8	3 3/4	4	33390	\$46.26	33391	\$48.61	33392	\$50.85	30509	\$50.85
3/4	5/8	1 5/8	3 3/4	4	33393	\$46.26	33394	\$48.61	33395	\$50.85	30510	\$50.85
3/4	3/4	3/4	3	4	33396	\$48.61	33397	\$51.07	33398	\$53.42	30511	\$53.42
3/4	3/4	1 1/4	3 1/2	4	33399	\$43.57	33400	\$45.70	33401	\$47.94	30512	\$47.94
3/4	3/4	1 1/2	3 3/4	4	33402	\$47.94	33403	\$50.29	33404	\$52.75	30513	\$52.75
3/4	3/4	1 5/8	3 7/8	4	33405	\$44.58	33406	\$46.82	33407	\$49.06	30514	\$49.06
3/4	3/4	2	4 1/4	4	33408	\$53.31	33409	\$56.00	33410	\$58.69	30515	\$58.69
3/4	3/4	2 1/2	4 3/4	4	33411	\$57.01	33412	\$59.81	33413	\$62.72	30516	\$62.72
3/4	3/4	3	5 1/4	4	33414	\$61.04	33415	\$64.06	33416	\$67.20	30517	\$67.20
3/4	3/4	4 1/8	6 3/8	4	33417	\$77.62	33418	\$81.54	33419	\$85.34	30518	\$85.34
13/16	3/4	1 7/8	4 1/8	4	33420	\$52.53	33421	\$55.10	33422	\$57.79	30519	\$57.79
7/8	3/4	1 1/8	3 3/8	4	33423	\$54.99	33424	\$57.79	33425	\$60.48	30520	\$60.48
7/8	3/4	1 1/2	3 3/4	4	33426	\$58.80	33427	\$61.71	33428	\$64.74	30521	\$64.74
7/8	3/4	1 7/8	4 1/8	4	33429	\$63.95	33430	\$67.20	33431	\$70.34	30522	\$70.34
7/8	3/4	3 1/2	5 3/4	4	33432	\$77.84	33433	\$81.76	33434	\$85.68	30523	\$85.68
7/8	7/8	1 1/8	3 3/8	4	33435	\$58.80	33436	\$61.71	33437	\$64.74	30524	\$64.74
7/8	7/8	1 7/8	4 1/8	4	33438	\$63.73	33439	\$66.86	33440	\$70.11	30525	\$70.11
7/8	7/8	3 1/2	5 3/4	4	33441	\$81.87	33442	\$86.02	33443	\$90.05	30526	\$90.05
1	3/4	3/4	3	4	33444	\$56.56	33445	\$59.36	33446	\$62.27	30527	\$62.27
1	3/4	1 1/8	3 3/8	4	33447	\$59.25	33448	\$62.16	33449	\$65.18	30528	\$65.18
1	3/4	1 1/2	3 3/4	4	33450	\$65.74	33451	\$68.99	33452	\$72.35	30529	\$72.35
1	3/4	2	4 1/4	4	33453	\$70.22	33454	\$73.70	33455	\$77.28	30530	\$77.28
1	3/4	3	5 1/4	4	33456	\$92.06	33457	\$96.66	33458	\$101.25	30531	\$101.25
1	3/4	4	6 1/4	4	33459	\$95.98	33460	\$100.80	33461	\$105.62	30532	\$105.62
1	1	1 1/8	3 5/8	4	33462	\$64.51	33463	\$67.76	33464	\$71.01	30533	\$71.01
1	1	1 5/8	4 1/8	4	33465	\$67.76	33466	\$71.12	33467	\$74.59	30534	\$74.59
1	1	2	4 1/2	4	33468	\$67.09	33469	\$70.45	33470	\$73.81	30535	\$73.81
1	1	3	5 1/2	4	33471	\$85.90	33472	\$90.16	33473	\$94.53	30536	\$94.53
1	1	4	6 1/2	4	33474	\$90.94	33475	\$95.54	33476	\$100.02	30537	\$100.02
1 1/8	1	3 1/2	6	6	33489	\$106.74	33490	\$112.11	33491	\$117.38	30542	\$117.38
1 1/4	3/4	3/4	3	6	33492	\$86.13	33493	\$90.38	33494	\$94.75	30543	\$94.75
1 1/4	3/4	1 1/8	3 3/8	6	33495	\$90.50	33496	\$94.98	33497	\$99.57	30544	\$99.57
1 1/4	3/4	1 1/2	3 3/4	6	33498	\$95.87	33499	\$100.69	33500	\$105.50	30545	\$105.50
1 1/4	3/4	2	4 1/4	6	33501	\$100.35	33502	\$105.39	33503	\$110.43	30546	\$110.43

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Continued

Flute	Shank	Length	Overall	#	Uncoated	Uncoated	TiN	TiN	TiCN	TiCN	TiAlN	TiAlN
Dia	Dia	of Cut	Length	F	EDP	List	EDP	List	EDP	List	EDP	List
1 1/4	1 1/4	1 3/8	3 7/8	6	33504	\$98.11	33505	\$103.04	33506	\$107.97	30547	\$107.97
1 1/4	1 1/4	2	4 1/2	6	33507	\$89.04	33508	\$93.52	33509	\$98.00	30548	\$98.00
1 1/4	1 1/4	3	5 1/2	6	33510	\$117.26	33511	\$123.09	33512	\$129.02	30549	\$129.02
1 1/4	1 1/4	4	6 1/2	6	33513	\$131.71	33514	\$138.32	33515	\$144.93	30550	\$144.93
1 1/4	1 1/4	6	8 1/2	6	33516	\$176.74	33517	\$185.58	33518	\$194.43	30551	\$194.43
1 3/8	3/4	1 1/8	3 3/8	6	33519	\$100.35	33520	\$105.39	33521	\$110.43	30552	\$110.43
1 3/8	3/4	2	4 1/4	6	33522	\$107.41	33523	\$112.78	33524	\$118.16	30553	\$118.16
1 1/2	3/4	3/4	3	6	33525	\$94.30	33526	\$99.01	33527	\$103.71	30554	\$103.71
1 1/2	3/4	1 1/8	3 3/8	6	33528	\$102.26	33529	\$107.41	33530	\$112.45	30555	\$112.45
1 1/2	3/4	1 1/2	3 3/4	6	33531	\$111.66	33532	\$117.26	33533	\$122.86	30556	\$122.86
1 1/2	3/4	2	4 1/4	6	33534	\$115.47	33535	\$121.30	33536	\$127.01	30557	\$127.01
1 1/2	1 1/4	2	4 1/2	6	33537	\$119.17	33538	\$125.10	33539	\$131.04	30558	\$131.04
1 1/2	1 1/4	3	5 1/2	6	33540	\$153.66	33541	\$161.39	33542	\$169.01	30559	\$169.01
1 1/2	1 1/4	4	6 1/2	6	33543	\$171.25	33544	\$179.76	33545	\$188.38	30560	\$188.38
1 1/2	1 1/4	5	7 1/2	6	33546	\$202.38	33547	\$212.46	33548	\$222.66	30561	\$222.66
1 1/2	1 1/4	6	8 1/2	6	33549	\$253.90	33550	\$266.56	33551	\$279.33	30562	\$279.33
1 3/4	3/4	1 1/8	3 3/8	6	33552	\$156.02	33553	\$163.86	33554	\$171.58	30563	\$171.58
1 3/4	3/4	2	4 1/4	6	33555	\$173.15	33556	\$181.78	33557	\$190.51	30564	\$190.51
1 3/4	1 1/4	2	4 1/2	6	33558	\$184.91	33559	\$194.21	33560	\$203.39	30565	\$203.39
1 3/4	1 1/4	4	6 1/2	6	33561	\$222.66	33562	\$233.74	33563	\$244.94	30566	\$244.94
2	3/4	3/4	3	8	33564	\$178.75	33565	\$187.71	33566	\$196.67	30567	\$196.67
2	3/4	1 1/8	3 3/8	8	33567	\$158.37	33568	\$166.32	33569	\$174.16	30568	\$174.16
2	3/4	2	4 1/4	8	33570	\$175.62	33571	\$184.35	33572	\$193.20	30569	\$193.20
2	1 1/4	2	4 1/2	8	33573	\$177.86	33574	\$186.70	33575	\$195.66	30570	\$195.66
2	1 1/4	4	6 1/2	8	33576	\$213.92	33577	\$224.67	33578	\$235.31	30571	\$235.31
2	1 1/4	6 1/8	8 5/8	8	33579	\$293.22	33580	\$307.89	33581	\$322.56	30572	\$322.56
2	2	2	5 3/4	8	33582	\$200.03	33583	\$210.00	33584	\$220.08	30573	\$220.08
2	2	3	6 3/4	8	33585	\$213.92	33586	\$224.67	33587	\$235.31	30574	\$235.31
2	2	4	7 3/4	8	33588	\$247.07	33589	\$259.39	33590	\$271.82	30575	\$271.82
2	2	5	8 3/4	8	33591	\$293.22	33592	\$307.89	33593	\$322.56	30576	\$322.56
2	2	6	9 3/4	8	33594	\$305.42	33595	\$320.66	33596	\$336.00	30577	\$336.00
2	2	7	10 3/4	8	33597	\$410.59	33598	\$431.09	33599	\$451.70	30578	\$451.70
2	2	8	11 3/4	8	33600	\$425.15	33601	\$446.43	33602	\$467.71	30579	\$467.71
2	2	10	13 3/4	8	33603	\$520.35	33604	\$546.34	33605	\$572.43	30580	\$572.43
2	2	12	15 3/4	8	33606	\$620.82	33607	\$651.84	33608	\$682.86	30581	\$682.86
Flute Dia		+0.001"	-0.000"		Overall Length		+0.062"	-0.000"	Helix Angle 36°			
Shank Dia		-0.0001"	-0.0005"						Length of Cut		+0.031"	-0.000"