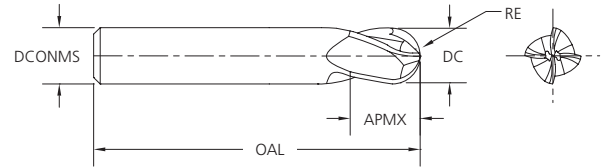
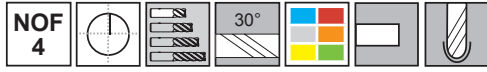


TuffCut® GP - Series 165

Manufactured with full ball radius end.



- Ideal for most ferrous metal applications.

Uncoated		DC			DCONMS		OAL		APMX	
Tool No.	EDP	Inch	mm	Decimal	Inch	mm	Inch	mm	Inch	mm
16501560	16500	1/64		.0156	1/8		1-1/2		.023	
16503120	16501	1/32		.0312	1/8		1-1/2		1/16	
16503940	16503		1.0	.0394		3.0		38		2.0
16504680	16505	3/64		.0468	1/8		1-1/2		3/32	
16505910	16507		1.5	.0591		3.0		38		3.0
16506250	16509	1/16		.0625	1/8		1-1/2		1/8	
16507810	16510	5/64		.0781	1/8		1-1/2		5/32	
16507870	16511		2.0	.0787		3.0		38		4.0
16509370	16513	3/32		.0937	1/8		1-1/2		3/16	
16509840	16515		2.5	.0984		3.0		38		5.0
16510930	16516	7/64		.1093	1/8		1-1/2		7/32	
16511810	16517		3.0	.1181		3.0		38		6.0
16512500	16519	1/8		.1250	1/8		1-1/2		1/4	
16513780	16521		3.5	.1378		4.0		51		7.0
16514060	16522	9/64		.1406	3/16		2		5/16	
16515620	16523	5/32		.1562	3/16		2		5/16	
16515750	16525		4.0	.1575		4.0		51		8.0
16517180	16526	11/64		.1718	3/16		2		3/8	
16517720	16527		4.5	.1772		5.0		51		9.0
16518750	16529	3/16		.1875	3/16		2		3/8	
16519680	16531		5.0	.1968		5.0		51		11.0
16520310	16532	13/64		.2031	1/4		2		1/2	
16521650	16533		5.5	.2165		6.0		51		12.0
16521870	16535	7/32		.2187	1/4		2		1/2	
16523430	16536	15/64		.2343	1/4		2		1/2	

Series 165 coated tools on page 208.

Inch		Inch		Metric (mm)		Metric (mm)	
DC	Tolerance	RE	Tolerance	DC	Tolerance (h10)	RE	Tolerance
1/64	+0.000/-0.001	<1/16	+0.001/-0.001	1.00 - 3.00	+0.000/-0.040	≤1.5	+0.025/-0.025
1/32 - 1/4	+0.000/-0.002	>1/16 - 1/8	+0.002/-0.002	>3.00 - 6.00	+0.000/-0.048	1.6 - 3.0	+0.050/-0.050
>1/4 - 3/4	+0.000/-0.003	>1/8	+0.003/-0.003	>6.00 - 10.00	+0.000/-0.058	>3.0	+0.075/-0.075
				>10.00 - 18.00	+0.000/-0.070		
				>18.00 - 20.00	+0.000/-0.084		



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Uncoated		DC			DCONMS		OAL		APMX	
Tool No.	EDP	Inch	mm	Decimal	Inch	mm	Inch	mm	Inch	mm
16523620	16537		6.0	.2362		6.0		51		13.0
16525000	16539	1/4		.2500	1/4		2		1/2	
16527560	16541		7.0	.2756		8.0		51		13.0
16528120	16542	9/32		.2812	5/16		2		1/2	
16531250	16543	5/16		.3125	5/16		2		1/2	
16531500	16545		8.0	.3150		8.0		51		13.0
16535430	16547		9.0	.3543		9.0		51		14.0
16537500	16549	3/8		.3750	3/8		2		5/8	
16539370	16551		10.0	.3937		10.0		51		14.0
16543310	16553		11.0	.4331		11.0		64		16.0
16543750	16555	7/16		.4375	7/16		2-1/2		5/8	
16547240	16557		12.0	.4724		12.0		64		16.0
16550000	16559	1/2		.5000	1/2		2-1/2		5/8	
16555120	16561		14.0	.5512		14.0		70		18.0
16562500	16563	5/8		.6250	5/8		3		3/4	
16562990	16565		16.0	.6299		16.0		76		20.0
16570870	16567		18.0	.7087		18.0		76		25.0
16575000	16569	3/4		.7500	3/4		3		1	
16578740	16571		20.0	.7874		20.0		76		25.0

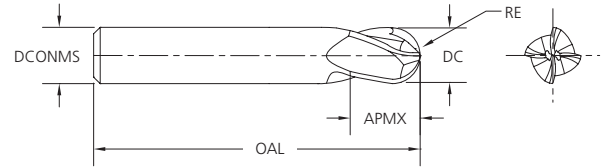
Series 165 coated tools on page 208.



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TuffCut® End Mills
Series 165

TuffCut® GP - Series 165 Coated



TIN		ALtima®		TiCN		DC			DCONMS		OAL		APMX	
Tool No.	EDP	Tool No.	EDP	Tool No.	EDP	Inch	mm	Decimal	Inch	mm	Inch	mm	Inch	mm
16511810T	56500	16511810A	56533	16511810C	56566		3.0	.1181		3.0		38		6.0
16512500T	56501	16512500A	56534	16512500C	56567	1/8		.1250	1/8		1-1/2		1/4	
16515750T	56505	16515750A	56538	16515750C	56571		4.0	.1575		4.0		51		8.0
16518750T	56508	16518750A	56541	16518750C	56574	3/16		.1875	3/16		2		3/8	
16519680T	56509	16519680A	56542	16519680C	56575		5.0	.1968		5.0		51		11.0
16523620T	56514	16523620A	56547	16523620C	56580		6.0	.2362		6.0		51		13.0
16525000T	56515	16525000A	56548	16525000C	56581	1/4		.2500	1/4		2		1/2	
16531250T	56518	16531250A	56551	16531250C	56584	5/16		.3125	5/16		2		1/2	
16531500T	56519	16531500A	56552	16531500C	56585		8.0	.3150		8.0		51		13.0
16537500T	56521	16537500A	56554	16537500C	56587	3/8		.3750	3/8		2		5/8	
16539370T	56522	16539370A	56555	16539370C	56588		10.0	.3937		10.0		51		14.0
16543750T	56524	16543750A	56557	16543750C	56590	7/16		.4375	7/16		2-1/2		5/8	
16547240T	56525	16547240A	56558	16547240C	56591		12.0	.4724		12.0		64		16.0
16550000T	56526	16550000A	56559	16550000C	56592	1/2		.5000	1/2		2-1/2		5/8	
16562500T	56528	16562500A	56561	16562500C	56594	5/8		.6250	5/8		3		3/4	
16562990T	56529	16562990A	56562	16562990C	56595		16.0	.6299		16.0		76		20.0
16575000T	56531	16575000A	56564	16575000C	56597	3/4		.7500	3/4		3		1	
16578740T	56532	16578740A	56565	16578740C	56598		20.0	.7874		20.0		76		25.0

Series 165 uncoated tools on page 206.



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