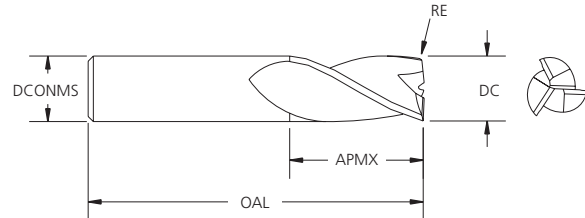
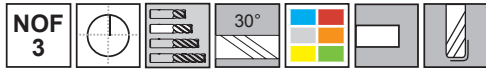


TuffCut® GP - Series 116

Designed for general purpose milling in a broad range of materials.



Uncoated		DC			DCONMS		OAL		APMX		RE
Tool No.	EDP	Inch	mm	Decimal	Inch	mm	Inch	mm	Inch	mm	Inch
11601560	11601	1/64		.0156	1/8		1-1/2		1/32		
11603120	11603	1/32		.0312	1/8		1-1/2		5/64		
11603940	11605		1.0	.0394		3.0		38		3.0	
11604680	11607	3/64		.0468	1/8		1-1/2		7/64		
11605910	11609		1.5	.0591		3.0		38		6.0	
11606250	11611	1/16		.0625	1/8		1-1/2		3/16		
11606250R.005	16197	1/16		.0625	1/8		1-1/2		3/16		.005
11606250R.010	16102	1/16		.0625	1/8		1-1/2		3/16		.010
11606250R.015	16104	1/16		.0625	1/8		1-1/2		3/16		.015
11606250R.020	16106	1/16		.0625	1/8		1-1/2		3/16		.020
11607810	11613	5/64		.0781	1/8		1-1/2		3/16		
11607810R.005	16198	5/64		.0781	1/8		1-1/2		3/16		.005
11607810R.010	16108	5/64		.0781	1/8		1-1/2		3/16		.010
11607810R.015	16110	5/64		.0781	1/8		1-1/2		3/16		.015
11607810R.020	16112	5/64		.0781	1/8		1-1/2		3/16		.020
11607870	11615		2.0	.0787		3.0		38		9.0	
11609370	11617	3/32		.0937	1/8		1-1/2		9/32		
11609370R.005	16199	3/32		.0937	1/8		1-1/2		9/32		.005
11609370R.010	16114	3/32		.0937	1/8		1-1/2		9/32		.010
11609370R.015	16116	3/32		.0937	1/8		1-1/2		9/32		.015
11609370R.020	16118	3/32		.0937	1/8		1-1/2		9/32		.020
11609840	11619		2.5	.0984		3.0		38		12.0	
11610930	11623	7/64		.1093	1/8		1-1/2		3/8		
11611810	11625		3.0	.1181		3.0		38		12.0	

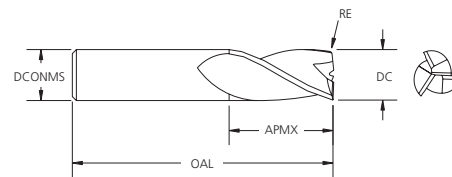
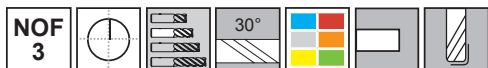
Series 116 coated tools on page 213.

Inch		Metric (mm)	
DC	Tolerance	DC	Tolerance (h10)
1/64	+.000/- .001	1.00 - 3.00	+.000/- .040
1/32 - 1/4	+.000/- .002	>3.00 - 6.00	+.000/- .048
>1/4 - 1	+.000/- .003	>6.00 - 10.00	+.000/- .058
		>10.00 - 18.00	+.000/- .070
		>18.00 - 25.00	+.000/- .084



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TuffCut® GP - Series 116 *Continued*



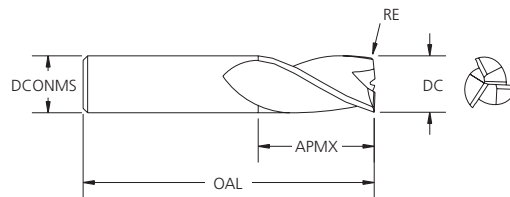
Uncoated		DC			DCONMS		OAL		APMX		RE
Tool No.	EDP	Inch	mm	Decimal	Inch	mm	Inch	mm	Inch	mm	Inch
11612500	11627	1/8		.1250	1/8		1-1/2		3/8		
11612500R.005	16202	1/8		.1250	1/8		1-1/2		3/8		.005
11612500R.010	16120	1/8		.1250	1/8		1-1/2		3/8		.010
11612500R.015	16122	1/8		.1250	1/8		1-1/2		3/8		.015
11612500R.020	16124	1/8		.1250	1/8		1-1/2		3/8		.020
11612501	11630	1/8		.1250	1/8		1-1/2		1/2		
11613780	11633		3.5	.1378		4.0		51		12.0	
11614060	11634	9/64		.1406	3/16		2		1/2		
11615620	11635	5/32		.1562	3/16		2		1/2		
11615750	11637		4.0	.1575		4.0		51		14.0	
11617190	11638	11/64		.1719	3/16		2		5/8		
11617720	11639		4.5	.1772		5.0		51		14.0	
11618750	11641	3/16		.1875	3/16		2		5/8		
11619680	11643		5.0	.1968		5.0		51		20.0	
11620310	11644	13/64		.2031	1/4		2-1/2		5/8		
11621650	11645		5.5	.2165		6.0		64		20.0	
11621870	11647	7/32		.2187	1/4		2-1/2		5/8		
11623440	11648	15/64		.2344	1/4		2-1/2		3/4		
11623620	11649		6.0	.2362		6.0		64		20.0	
11625000	11651	1/4		.2500	1/4		2-1/2		3/4		
11627560	11653		7.0	.2756		8.0		64		20.0	
11628120	11655	9/32		.2812	5/16		2-1/2		3/4		
11631250	11657	5/16		.3125	5/16		2-1/2		13/16		
11631500	11659		8.0	.3150		8.0		64		20.0	
11635430	11661		9.0	.3543		9.0		64		20.0	
11637500	11663	3/8		.3750	3/8		2-1/2		1		
11639370	11665		10.0	.3937		10.0		70		25.0	
11643310	11667		11.0	.4331		11.0		70		25.0	
11643750	11669	7/16		.4375	7/16		2-3/4		1		
11647240	11671		12.0	.4724		12.0		76		25.0	
11650000	11673	1/2		.5000	1/2		3		1		
11655120	11675		14.0	.5512		14.0		89		30.0	
11656250	11677	9/16		.5625	9/16		3-1/2		1-1/8		
11662500	11679	5/8		.6250	5/8		3-1/2		1-1/4		
11662990	11681		16.0	.6299		16.0		89		30.0	
11670870	11683		18.0	.7087		18.0		102		35.0	
11675000	11685	3/4		.7500	3/4		4		1-1/2		
11678740	11687		20.0	.7874		20.0		102		38.0	
11686620	11689		22.0	.8662		22.0		102		40.0	
11687500	11691	7/8		.8750	7/8		4		1-1/2		
11698430	11693		25.0	.9843		25.0		102		40.0	
11610000	11621	1		1.0000	1		4		1-1/2		

Series 116 coated tools on page 213.



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TuffCut® GP - Series 116 Coated



TiN		ALtima®		TiCN		Fordlube		DC			DCONMS	OAL	APMX	RE
Tool No.	EDP	Tool No.	EDP	Tool No.	EDP	Tool No.	EDP	Inch	mm	Decimal				
		11603940A	11606						1.0	.0394	3.0	38	3.0	
		11606250R.005A	16204			11606250R.005F	16210	1/16		.0625	1/8	1-1/2	3/16	.005
		11606250R.010A	16150			11606250R.010F	16212	1/16		.0625	1/8	1-1/2	3/16	.010
		11606250R.015A	16128			11606250R.015F	16214	1/16		.0625	1/8	1-1/2	3/16	.015
		11606250R.020A	16130			11606250R.020F	16216	1/16		.0625	1/8	1-1/2	3/16	.020
		11605910A	11610						1.5	.0591	3.0	38	6.0	
		11607810R.005A	16206			11607810R.005F	16218	5/64		.0781	1/8	1-1/2	3/16	.005
		11607810R.010A	16132			11607810R.010F	16220	5/64		.0781	1/8	1-1/2	3/16	.010
		11607810R.015A	16134			11607810R.015F	16222	5/64		.0781	1/8	1-1/2	3/16	.015
		11607810R.020A	16136			11607810R.020F	16224	5/64		.0781	1/8	1-1/2	3/16	.020
		11607870A	11616						2.0	.0787	3.0	38	9.0	
		11609370R.005A	16208			11609370R.005F	16227	3/32		.0937	1/8	1-1/2	9/32	.005
		11609370R.010A	16138			11609370R.010F	16228	3/32		.0937	1/8	1-1/2	9/32	.010
		11609370R.015A	16140			11609370R.015F	16230	3/32		.0937	1/8	1-1/2	9/32	.015
		11609370R.020A	16142			11609370R.020F	16232	3/32		.0937	1/8	1-1/2	9/32	.020
		11609840A	11620						2.5	.0984	3.0	38	12.0	
11611810T	11626	11611810A	51603	11611810C	51604				3.0	.1181	3.0	38	12.0	
11612500T	11628	11612500A	51605	11612500C	51606			1/8		.1250	1/8	1-1/2	3/8	
		11612500R.005A	16242			11612500R.005F	16234	1/8		.1250	1/8	1-1/2	3/8	.005
		11612500R.010A	16144			11612500R.010F	16238	1/8		.1250	1/8	1-1/2	3/8	.010
		11612500R.015A	16146			11612500R.015F	16239	1/8		.1250	1/8	1-1/2	3/8	.015
		11612500R.020A	16148			11612500R.020F	16240	1/8		.1250	1/8	1-1/2	3/8	.020
11615750T	11636	11615750A	51607	11615750C	51608				4.0	.1575	4.0	51	14.0	
11618750T	11642	11618750A	51609	11618750C	51610			3/16		.1875	3/16	2	5/8	
11619680T	11646	11619680A	51611	11619680C	51612				5.0	.1968	5.0	51	20.0	
11623620T	11650	11623620A	51613	11623620C	51614				6.0	.2362	6.0	64	20.0	
11625000T	11652	11625000A	51615	11625000C	51616			1/4		.2500	1/4	2-1/2	3/4	
11631250T	11658	11631250A	51617	11631250C	51618			5/16		.3125	5/16	2-1/2	13/16	
11631500T	11660	11631500A	51619	11631500C	51620				8.0	.3150	8.0	64	20.0	
11637500T	11664	11637500A	51621	11637500C	51622			3/8		.3750	3/8	2-1/2	1	
11639370T	11666	11639370A	51623	11639370C	51624				10.0	.3937	10.0	70	25.0	
11643750T	11670	11643750A	51625	11643750C	51626			7/16		.4375	7/16	2-3/4	1	
11647240T	11672	11647240A	51627	11647240C	51628				12.0	.4724	12.0	76	25.0	
11650000T	11674	11650000A	51629	11650000C	51630			1/2		.5000	1/2	3	1	
11662500T	11680	11662500A	51631	11662500C	51632			5/8		.6250	5/8	3-1/2	1-1/4	
11662990T	11682	11662990A	51633	11662990C	51634				16.0	.6299	16.0	89	30.0	
11675000T	11686	11675000A	51635	11675000C	51636			3/4		.7500	3/4	4	1-1/2	
11678740T	11688	11678740A	51637	11678740C	51638				20.0	.7874	20.0	102	38.0	
11698430T	11694	11698430A	51639	11698430C	51640				25.0	.9843	25.0	102	40.0	
11610000T	11622	11610000A	51601	11610000C	51602			1		1.0000	1	4	1-1/2	

Series 116 uncoated tools on page 211.



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