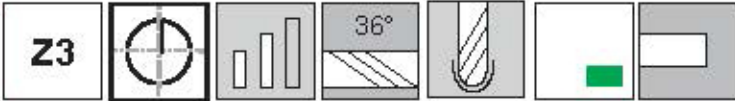
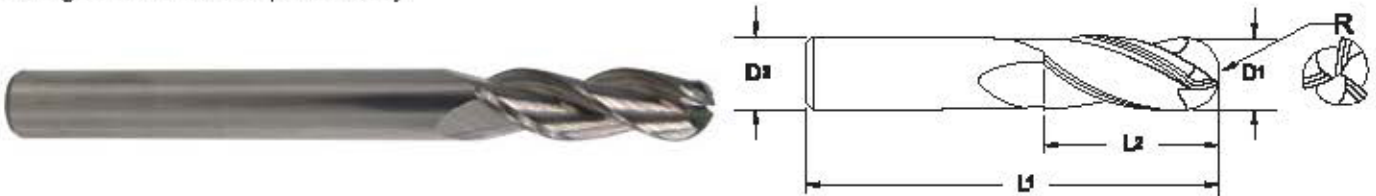


3
Flute
Ball

**TuffCut® X-AL
Series 138B**



Designed for extreme productivity.



Uncoated		Diameter			Shank		OAL		Flute Length	
		D1			D2 (h6)		L1		L2	
Tool No.	EDP	Inch	mm	Decimal	Inch	mm	Inch	mm	Inch	mm
138B11810	13356		3.0	.1181		3.0		38.0		12.0
138B12500	13300	1/8		.1250	1/8		1-1/2		3/8	
138B12501	13302	1/8		.1250	1/8		2		1/2	
138B15750	13358		4.0	.1575		4.0		51.0		15.0
138B18750	13304	3/16		.1875	3/16		2		3/8	
138B18751	13306	3/16		.1875	3/16		2-1/2		5/8	
138B19680	13360		5.0	.1968		5.0		64.0		20.0
138B23620	13362		6.0	.2362		6.0		64.0		20.0
138B25000	13308	1/4		.2500	1/4		2-1/2		1/2	
138B25001	13310	1/4		.2500	1/4		2-1/2		3/4	
138B31250	13312	5/16		.3125	5/16		2-1/2		1/2	
138B31251	13314	5/16		.3125	5/16		2-1/2		13/16	
138B31500	13364		8.0	.3150		8.0		64.0		20.0
138B37500	13316	3/8		.3750	3/8		2-1/2		5/8	
138B37501	13318	3/8		.3750	3/8		2-1/2		1	
138B39370	13366		10.0	.3937		10.0		70.0		25.0
138B43750	13320	7/16		.4375	7/16		2-3/4		9/16	
138B43751	13322	7/16		.4375	7/16		2-3/4		1	
138B47240	13368		12.0	.4724		12.0		76.0		25.0
138B50000	13324	1/2		.5000	1/2		3		5/8	
138B50001	13326	1/2		.5000	1/2		3		1-1/4	
138B50002	13328	1/2		.5000	1/2		6		1-1/4	
138B62500	13330	5/8		.6250	5/8		3-1/2		1-1/4	
138B62501	13332	5/8		.6250	5/8		4		1-5/8	
138B62990	13370		16.0	.6299		16.0		89.0		35.0
138B75000	13334	3/4		.7500	3/4		4		1	
138B75001	13336	3/4		.7500	3/4		4		1-5/8	
138B10000	13338	1		1.0000	1		4		1-1/2	
138B10001	13340	1		1.0000	1		5		2-1/4	

Inch	
D1	Tolerance
1/8 - 1.0	+0.000/-0.005

Metric (mm)	
D1	Tolerance
3.00 - 16.00	+0.00/-0.13

Inch	
R	Tolerance
1/8 - 1	+0.004/-0.004

Metric (mm)	
R	Tolerance
3.0 - 16.0	+0.1/-0.1



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