



Where **high performance** is the **standard**®

TuffCut DM® Series 158



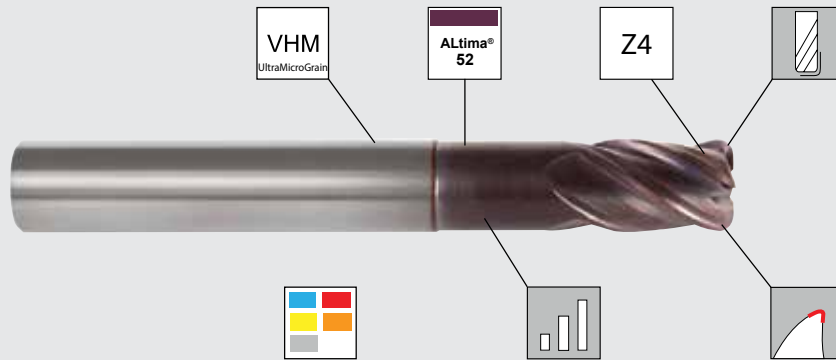
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www.maford.com



Where **high performance** is the **standard**®

TuffCut DM® Series 158



Micro Grain Carbide Grade
 • Multi application for roughing and finishing
 • Covers wide range of materials



Proven ALtima® 52 Coating
 • TiAlSiN Superhard Coating excels in hardened materials and Super Alloys



4 Flutes For Universal Application Range
 • Increased core diameter for improved stiffness
 • Unequal flute spacing for reduced vibration



Extensive Line-up of Corner Radius
 • large = High Feed Roughing
 • Small-medium = Semi Finishing and Finishing



Wide Application Area
 • Steels, Stainless Steel, Cast Iron, Titanium
 Hardened Steel, Super Alloys



Wide Lineup of Neck Lengths
 • Ideal for Die & Mold and 3D machining applications



Special Cutting Edge Preparation
 • Rounds edge for additional strength
 • Reduces cutting edge stresses

Features

Application Materials

- Alloy Steels
- Tool Steels
- Cast iron
- Titanium
- Heat Resistant Super Alloys
- Hardened Steels upto HRC60

Application Areas

- Die & Mold
- 3D Complex Parts
- Motorsports Components
- High Speed 3D machining strategies

Innovation is what drives us and our TuffCut DM® 158 Series is a perfect example of how our advanced tooling technologies combine to make a positive difference to your business.

The 158 Series is designed for 3D machining and milling, delivering outstanding metal removal rates and a high quality finish particularly where HSC strategies are used. The range includes a choice of different neck lengths and dedicated corner radius options for high feed roughing, semi-finishing and finishing applications.

By combining an asymmetrically spaced 4-flute design and special edge preparation, together with our proven ALtima® 52 coating and different corner radius options for high feed roughing or precision finishing, the 158 Series delivers exceptional performance and cutting efficiency with a diverse range of materials.



Corner Radius - High Feed Roughing

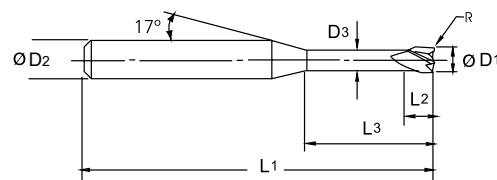


Diameter	Diameter Tolerance mm	R Tolerance mm	Shank Ø Tolerance
Ø2.0 - Ø16	+0 / - 0.02	-0.02 / +0.02	h6

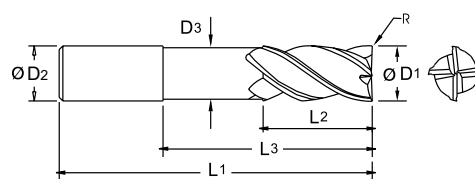
Diameter	Diameter Tolerance inch	R Tolerance inch	Shank Ø Tolerance
Ø2.0 - Ø16	+0 / - 0.0008	-0.0008 / +0.0008	h6

Metric (mm)	
D2	Tolerance (h6)
0 - 3.0	+0/- .006
3.01 - 6.0	+0/- .008
6.01 - 10.0	+0/- .009
10.01 - 16.0	+0/- .011

Inch	
D2	Tolerance (h6)
.0000 - .1181	+0/- .00024
.1182 - .2362	+0/- .00031
.2363 - .3937	+0/- .00035
.3938 - .6299	+0/- .00043



Type 1



Type 2

ALtima [®] 52		Diameter		Shank Diameter	Neck Diameter	OAL	Flute Length	Neck Length	Radius	Type
Tool No.	EDP	D1	Decimal Inch	D2	D3	L1	L2	L3	R	
158M02N08-0.5RA	99160	2.0	.0787	6.0	1.9	63.0	3.0	8.0	R0.5	1
158M03N10-0.8RA	99173	3.0	.1181	6.0	2.9	63.0	5.0	10.0	R0.8	1
158M04N12-1.0RA	99186	4.0	.1575	6.0	3.9	63.0	6.0	12.0	R1.0	1
158M06N20-1.5RA	99190	6.0	.2362	6.0	5.8	75.0	9.0	20.0	R1.5	2
158M06N30-1.5RA	99194	6.0	.2362	6.0	5.8	100.0	9.0	30.0	R1.5	2
158M08N30-2.0RA	99198	8.0	.3150	8.0	7.6	75.0	12.0	30.0	R2.0	2
158M08N40-2.0RA	99202	8.0	.3150	8.0	7.6	100.0	12.0	40.0	R2.0	2
158M08N50-2.0RA	99206	8.0	.3150	8.0	7.6	120.0	12.0	50.0	R2.0	2
158M10N30-2.0RA	99210	10.0	.3937	10.0	9.6	75.0	15.0	30.0	R2.0	2
158M10N50-2.0RA	99214	10.0	.3937	10.0	9.6	100.0	15.0	50.0	R2.0	2
158M10N60-2.0RA	99218	10.0	.3937	10.0	9.6	130.0	15.0	60.0	R2.0	2
158M12N40-2.0RA	99221	12.0	.4724	12.0	11.4	100.0	18.0	40.0	R2.0	2
158M12N60-2.0RA	99224	12.0	.4724	12.0	11.4	140.0	18.0	60.0	R2.0	2
158M16N50-3.0RA	99227	16.0	.6299	16.0	15.2	100.0	24.0	50.0	R3.0	2
158M16N70-3.0RA	99230	16.0	.6299	16.0	15.2	150.0	24.0	70.0	R3.0	2

⚠ WARNING: This product can expose you to chemicals including nickel, cobalt, and lead, which are known to the State of California to cause cancer, and chemicals including lead which are known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

TuffCut DM[®] Series 158 Corner Radius

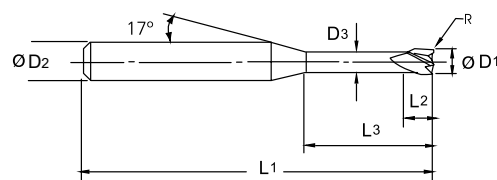


Diameter mm	Diameter Tolerance mm	R Tolerance mm	Shank Ø Tolerance
Ø2.0 - Ø16	+0 / - 0.02	-0.02 / +0.02	h6

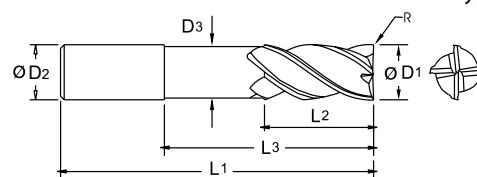
Diameter mm	Diameter Tolerance Inch	R Tolerance Inch	Shank Ø Tolerance
Ø2.0 - Ø16	+0 / - 0.0008	-0.0008 / +0.0008	h6

Metric (mm)	
D2	Tolerance (h6)
0 - 3.0	+0/-0.006
3.01 - 6.0	+0/-0.008
6.01 - 10.0	+0/-0.009
10.01 - 16.0	+0/-0.011

Inch	
D2	Tolerance (h6)
.0000 - .1181	+0/-0.0024
.1182 - .2362	+0/-0.0031
.2363 - .3937	+0/-0.0035
.3938 - .6299	+0/-0.0043



Type 1



Type 2

ALtima [®] 52		Diameter		Shank Diameter	Neck Diameter	OAL	Flute Length	Neck Length	Radius	Type
Tool No.	EDP	D1	Decimal inch	D2	D3	L1	L2	L3	R	
158M02N06-0.1RA	99150	2.0	.0787	6.0	1.9	63.0	3.0	6.0	R0.1	1
158M02N08-0.1RA	99151	2.0	.0787	6.0	1.9	63.0	3.0	8.0	R0.1	1
158M02N12-0.1RA	99152	2.0	.0787	6.0	1.9	63.0	3.0	12.0	R0.1	1
158M02N16-0.1RA	99153	2.0	.0787	6.0	1.9	63.0	3.0	16.0	R0.1	1
158M02N20-0.1RA	99154	2.0	.0787	6.0	1.9	75.0	3.0	20.0	R0.1	1
158M02N06-0.2RA	99155	2.0	.0787	6.0	1.9	63.0	3.0	6.0	R0.2	1
158M02N08-0.2RA	99156	2.0	.0787	6.0	1.9	63.0	3.0	8.0	R0.2	1
158M02N12-0.2RA	99157	2.0	.0787	6.0	1.9	63.0	3.0	12.0	R0.2	1
158M02N16-0.2RA	99158	2.0	.0787	6.0	1.9	63.0	3.0	16.0	R0.2	1
158M02N20-0.2RA	99159	2.0	.0787	6.0	1.9	75.0	3.0	20.0	R0.2	1
158M03N10-0.2RA	99161	3.0	.1181	6.0	2.9	63.0	5.0	10.0	R0.2	1
158M03N12-0.2RA	99162	3.0	.1181	6.0	2.9	63.0	5.0	12.0	R0.2	1
158M03N16-0.2RA	99163	3.0	.1181	6.0	2.9	63.0	5.0	16.0	R0.2	1
158M03N20-0.2RA	99164	3.0	.1181	6.0	2.9	75.0	5.0	20.0	R0.2	1
158M03N25-0.2RA	99165	3.0	.1181	6.0	2.9	75.0	5.0	25.0	R0.2	1
158M03N30-0.2RA	99166	3.0	.1181	6.0	2.9	75.0	5.0	30.0	R0.2	1

TuffCut DM[®] Series 158 continued

Corner Radius

ALtima [®] 52		Diameter		Shank Diameter	Neck Diameter	OAL	Flute Length	Neck Length	Radius	Type
Tool No.	EDP	D1	Decimal inch	D2	D3	L1	L2	L3	R	
158M03N10-0.5RA	99167	3.0	.1181	6.0	2.9	63.0	5.0	10.0	R0.5	1
158M03N12-0.5RA	99168	3.0	.1181	6.0	2.9	63.0	5.0	12.0	R0.5	1
158M03N16-0.5RA	99169	3.0	.1181	6.0	2.9	63.0	5.0	16.0	R0.5	1
158M03N20-0.5RA	99170	3.0	.1181	6.0	2.9	75.0	5.0	20.0	R0.5	1
158M03N25-0.5RA	99171	3.0	.1181	6.0	2.9	75.0	5.0	25.0	R0.5	1
158M03N30-0.5RA	99172	3.0	.1181	6.0	2.9	75.0	5.0	30.0	R0.5	1
158M04N10-0.2RA	99174	4.0	.1575	6.0	3.9	63.0	6.0	10.0	R0.2	1
158M04N12-0.2RA	99175	4.0	.1575	6.0	3.9	63.0	6.0	12.0	R0.2	1
158M04N16-0.2RA	99176	4.0	.1575	6.0	3.9	63.0	6.0	16.0	R0.2	1
158M04N20-0.2RA	99177	4.0	.1575	6.0	3.9	75.0	6.0	20.0	R0.2	1
158M04N25-0.2RA	99178	4.0	.1575	6.0	3.9	75.0	6.0	25.0	R0.2	1
158M04N30-0.2RA	99179	4.0	.1575	6.0	3.9	75.0	6.0	30.0	R0.2	1
158M04N10-0.5RA	99180	4.0	.1575	6.0	3.9	63.0	6.0	10.0	R0.5	1
158M04N12-0.5RA	99181	4.0	.1575	6.0	3.9	63.0	6.0	12.0	R0.5	1
158M04N16-0.5RA	99182	4.0	.1575	6.0	3.9	63.0	6.0	16.0	R0.5	1
158M04N20-0.5RA	99183	4.0	.1575	6.0	3.9	75.0	6.0	20.0	R0.5	1
158M04N25-0.5RA	99184	4.0	.1575	6.0	3.9	75.0	6.0	25.0	R0.5	1
158M04N30-0.5RA	99185	4.0	.1575	6.0	3.9	75.0	6.0	30.0	R0.5	1
158M06N20-0.3RA	99187	6.0	.2362	6.0	5.8	75.0	9.0	20.0	R0.3	2
158M06N20-0.5RA	99188	6.0	.2362	6.0	5.8	75.0	9.0	20.0	R0.5	2
158M06N20-1.0RA	99189	6.0	.2362	6.0	5.8	75.0	9.0	20.0	R1.0	2
158M06N30-0.3RA	99191	6.0	.2362	6.0	5.8	100.0	9.0	30.0	R0.3	2
158M06N30-0.5RA	99192	6.0	.2362	6.0	5.8	100.0	9.0	30.0	R0.5	2
158M06N30-1.0RA	99193	6.0	.2362	6.0	5.8	100.0	9.0	30.0	R1.0	2
158M08N30-0.3RA	99195	8.0	.3150	8.0	7.6	75.0	12.0	30.0	R0.3	2
158M08N30-0.5RA	99196	8.0	.3150	8.0	7.6	75.0	12.0	30.0	R0.5	2
158M08N30-1.0RA	99197	8.0	.3150	8.0	7.6	75.0	12.0	30.0	R1.0	2
158M08N40-0.3RA	99199	8.0	.3150	8.0	7.6	100.0	12.0	40.0	R0.3	2
158M08N40-0.5RA	99200	8.0	.3150	8.0	7.6	100.0	12.0	40.0	R0.5	2
158M08N40-1.0RA	99201	8.0	.3150	8.0	7.6	100.0	12.0	40.0	R1.0	2
158M08N50-0.3RA	99203	8.0	.3150	8.0	7.6	120.0	12.0	50.0	R0.3	2
158M08N50-0.5RA	99204	8.0	.3150	8.0	7.6	120.0	12.0	50.0	R0.5	2
158M08N50-1.0RA	99205	8.0	.3150	8.0	7.6	120.0	12.0	50.0	R1.0	2
158M10N30-0.3RA	99207	10.0	.3937	10.0	9.6	75.0	15.0	30.0	R0.3	2
158M10N30-0.5RA	99208	10.0	.3937	10.0	9.6	75.0	15.0	30.0	R0.5	2
158M10N30-1.0RA	99209	10.0	.3937	10.0	9.6	75.0	15.0	30.0	R1.0	2
158M10N50-0.3RA	99211	10.0	.3937	10.0	9.6	100.0	15.0	50.0	R0.3	2
158M10N50-0.5RA	99212	10.0	.3937	10.0	9.6	100.0	15.0	50.0	R0.5	2
158M10N50-1.0RA	99213	10.0	.3937	10.0	9.6	100.0	15.0	50.0	R1.0	2

TuffCut DM[®] Series 158 continued Corner Radius

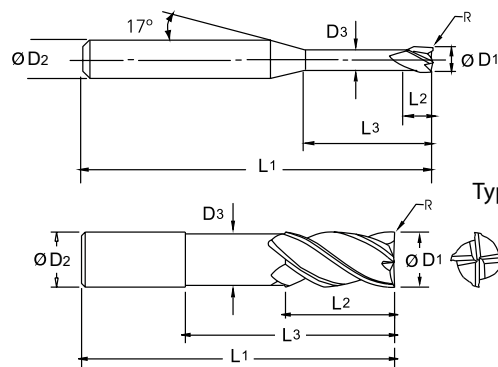


Diameter mm	Diameter Tolerance mm	R Tolerance mm	Shank Ø Tolerance
Ø2.0 - Ø16	+0 / - 0.02	-0.02 / +0.02	h6

Metric (mm)	
D2	Tolerance (h6)
0 - 3.0	+0/-0.006
3.01 - 6.0	+0/-0.008
6.01 - 10.0	+0/-0.009
10.01 - 16.0	+0/-0.011

Diameter mm	Diameter Tolerance Inch	R Tolerance Inch	Shank Ø Tolerance
Ø2.0 - Ø16	+0 / - 0.0008	-0.0008 / +0.0008	h6

Inch	
D2	Tolerance (h6)
.0000 - .1181	+0/-0.00024
.1182 - .2362	+0/-0.00031
.2363 - .3937	+0/-0.00035
.3938 - .6299	+0/-0.00043



Type 1

Type 2

ALtima [®] 52		Diameter		Shank Diameter	Neck Diameter	OAL	Flute Length	Neck Length	Radius	Type
Tool No.	EDP	D1	Decimal inch	D2	D3	L1	L2	L3	R	
158M10N60-0.3RA	99215	10.0	.3937	10.0	9.6	130.0	15.0	60.0	R0.3	2
158M10N60-0.5RA	99216	10.0	.3937	10.0	9.6	130.0	15.0	60.0	R0.5	2
158M10N60-1.0RA	99217	10.0	.3937	10.0	9.6	130.0	15.0	60.0	R1.0	2
158M12N40-0.3RA	99219	12.0	.4724	12.0	11.4	100.0	18.0	40.0	R0.3	2
158M12N40-1.0RA	99220	12.0	.4724	12.0	11.4	100.0	18.0	40.0	R1.0	2
158M12N60-0.3RA	99222	12.0	.4724	12.0	11.4	140.0	18.0	60.0	R0.3	2
158M12N60-1.0RA	99223	12.0	.4724	12.0	11.4	140.0	18.0	60.0	R1.0	2
158M16N50-0.3RA	99225	16.0	.6299	16.0	15.2	100.0	24.0	50.0	R0.3	2
158M16N50-1.0RA	99226	16.0	.6299	16.0	15.2	100.0	24.0	50.0	R1.0	2
158M16N70-0.3RA	99228	16.0	.6299	16.0	15.2	150.0	24.0	70.0	R0.3	2
158M16N70-1.0RA	99229	16.0	.6299	16.0	15.2	150.0	24.0	70.0	R1.0	2

Safety Note

Always wear the appropriate personal protective equipment such as safety glasses and protective clothing when using solid carbide or HSS cutting tools. Machines should be fully guarded.

Also Available:

TuffCut DM[®]



M.A. Ford[®] Series 157

- Multi-flute
- Center cutting
- Standard lengths
- Excellent tool for die and mold steels and hard to machine materials
- ALtima[®] 52 coating designed for milling hardened materials Rc 52 and above
- 45° helix, square end and corner radius options

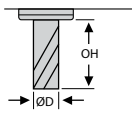


M.A. Ford[®] Series 156

- 2 flute designed for high-production milling of hard and difficult to cut materials
- Center cutting
- Stub lengths
- ALtima[®] 52 coating designed for milling hardened materials Rc 52 and above
- 20° helix, ball nose with neck relief options



TuffCut DM® Series 158 Recommended cutting data - Inch HSC Roughing



Workpiece Material Group	Material Type	Coolant		OH	Vc-SFM	Tool Diameter and Corner Radius									
						.0787 x R.0197			.1181 x R.0315			.1575 x R.0394			
		Air	Emulsion			2.0 x R0.5		3.0 x R0.8			4.0 x R1.0				
		Ap	Ae	Fz	Ap	Ae	Fz	Ap	Ae	Fz					
Steel	P	●	○	3D	395	.0039	.020	.0039	.0063	.028	.0063	.0079	.039	.0079	
				4D	360	.0035		.0039	.0055		.0063	.0071		.0079	
				5D	330	.0035		.0039	.0055		.0063	.0067		.0079	
				6D	310	.0028		.0039	.0043		.0063	.0055		.0079	
				8D	280	.0024		.0039	.0039		.0063	.0047		.0079	
	10D	230	.0020	.0039	.0031	.0063	.0039	.0079							
		Pre-hardened Tool Steel HRC30-40	●	○	3D	310	.0031	.020	.0035	.0051	.028	.0055	.0063	.039	.0071
					4D	280	.0028		.0035	.0047		.0055	.0055		.0071
					5D	260	.0028		.0035	.0043		.0055	.0055		.0071
					6D	245	.0020		.0035	.0035		.0055	.0043		.0071
8D					215	.0020	.0035		.0031	.0055		.0039	.0071		
10D	180	.0016	.0035	.0024	.0055	.0031	.0071								
Stainless Steel	M	x	●	3D	230	.0031	.020	.0035	.0051	.028	.0055	.0063	.039	.0071	
				4D	215	.0028		.0035	.0047		.0055	.0055		.0071	
				5D	200	.0028		.0035	.0043		.0055	.0055		.0071	
				6D	180	.0020		.0035	.0035		.0055	.0043		.0071	
				8D	165	.0020		.0035	.0031		.0055	.0039		.0071	
10D	130	.0016	.0035	.0024	.0055	.0031	.0071								
Special Alloys	S	x	●	3D	100	.0012	.016	.0020	.0016	.024	.0031	.0020	.032	.0039	
				4D	80	.0008		.0020	.0016		.0031	.0020		.0039	
				5D	80	.0008		.0020	.0012		.0031	.0016		.0039	
				6D	80	.0008		.0020	.0012		.0031	.0012		.0039	
				8D	65	.0008		.0020	.0008		.0031	.0012		.0039	
	10D	65	.0004	.0020	.0008	.0031	.0012	.0039							
		Titanium Alloys	x	●	3D	230	.0024	.016	.0031	.0035	.024	.0047	.0043	.032	.0059
					4D	215	.0020		.0031	.0031		.0047	.0039		.0059
					5D	200	.0020		.0031	.0028		.0047	.0035		.0059
					6D	180	.0016		.0031	.0024		.0047	.0028		.0059
8D					165	.0012	.0031		.0020	.0047		.0028	.0059		
10D	130	.0012	.0031	.0016	.0047	.0024	.0059								
Cast Iron	K	●	●	3D	395	.0039	.020	.0039	.0063	.028	.0063	.0079	.039	.0079	
				4D	360	.0035		.0039	.0055		.0063	.0071		.0079	
				5D	330	.0035		.0039	.0055		.0063	.0067		.0079	
				6D	310	.0028		.0039	.0043		.0063	.0055		.0079	
				8D	280	.0024		.0039	.0039		.0063	.0047		.0079	
10D	230	.0020	.0039	.0031	.0063	.0039	.0079								
Hardened Steels	H	●	○	3D	260	.0024	.020	.0028	.0039	.028	.0043	.0047	.039	.0055	
				4D	230	.0020		.0028	.0035		.0043	.0043		.0055	
				5D	230	.0020		.0028	.0031		.0043	.0039		.0055	
				6D	215	.0016		.0028	.0028		.0043	.0031		.0055	
				8D	180	.0016		.0028	.0024		.0043	.0028		.0055	
	10D	165	.0012	.0028	.0020	.0043	.0024	.0055							
		Hardened Steels HRC50-55	●	x	3D	200	.0020	.016	.0020	.0031	.024	.0031	.0039	.032	.0039
					4D	180	.0020		.0020	.0028		.0031	.0035		.0039
					5D	165	.0016		.0020	.0028		.0031	.0035		.0039
					6D	165	.0012		.0020	.0020		.0031	.0028		.0039
8D					130	.0012	.0020		.0020	.0031		.0024	.0039		
10D	115	.0012	.0020	.0016	.0031	.0020	.0039								

● Preferred ○ Possible x Not Possible

Technical data provided should be considered advisory only as variations may be necessary depending on the particular application.

TuffCut DM[®] Series 158 Recommended cutting data - Inch

HSC Roughing

Tool Diameter and Corner Radius														
.2362 x R.059			.3150 x R.0787			.3937 x R.0787			.4724 X R.0787			.6299 x R.1181		
6.0 x R1.5			8.0 x R2.0			10.0 x R2.0			12 x R2.0			16 x R3.0		
Ap	Ae	Fz	Ap	Ae	Fz	Ap	Ae	Fz	Ap	Ae	Fz	Ap	Ae	Fz
.0118	.059	.0118	.0157	.079	.0157	.0157	.118	.0157	.0157	.157	.0157	.0236	.197	.0236
.0106		.0118	.0142		.0157	.0142		.0157	.0142		.0157	.0213		.0236
.0102		.0118	.0134		.0157	.0134		.0157	.0134		.0157	.0201		.0236
.0079		.0118	.0106		.0157	.0106		.0157	.0106		.0157	.0161		.0236
.0071		.0118	.0094		.0157	.0094		.0157	.0094		.0157	.0142		.0236
.0059		.0118	.0079		.0157	.0079		.0157	.0079		.0157	.0118		.0236
.0094	.059	.0106	.0126	.079	.0142	.0126	.118	.0142	.0126	.157	.0142	.0189	.197	.0213
.0087		.0106	.0114		.0142	.0114		.0142	.0114		.0142	.0169		.0213
.0079		.0106	.0106		.0142	.0106		.0142	.0106		.0142	.0161		.0213
.0063		.0106	.0087		.0142	.0087		.0142	.0087		.0142	.0130		.0213
.0055		.0106	.0075		.0142	.0075		.0142	.0075		.0142	.0114		.0213
.0047		.0106	.0063		.0142	.0063		.0142	.0063		.0142	.0110		.0213
.0094	.059	.0106	.0126	.079	.0142	.0126	.118	.0142	.0126	.157	.0142	.0189	.197	.0213
.0087		.0106	.0114		.0142	.0114		.0142	.0114		.0142	.0169		.0213
.0079		.0106	.0106		.0142	.0106		.0142	.0106		.0142	.0161		.0213
.0063		.0106	.0087		.0142	.0087		.0142	.0087		.0142	.0130		.0213
.0055		.0106	.0075		.0142	.0075		.0142	.0075		.0142	.0114		.0213
.0047		.0106	.0063		.0142	.0063		.0142	.0063		.0142	.0094		.0213
.0031	.048	.0059	.0039	.063	.0079	.0039	.098	.0079	.0039	.138	.0079	.0059	.169	.0118
.0028		.0059	.0035		.0079	.0035		.0079	.0035		.0079	.0055		.0118
.0024		.0059	.0035		.0079	.0035		.0079	.0035		.0079	.0051		.0118
.0020		.0059	.0028		.0079	.0028		.0079	.0028		.0079	.0039		.0118
.0020		.0059	.0024		.0079	.0024		.0079	.0024		.0079	.0035		.0118
.0016		.0059	.0020		.0079	.0020		.0079	.0020		.0079	.0031		.0118
.0067	.048	.0091	.0087	.063	.0118	.0087	.098	.0118	.0087	.138	.0118	.0130	.169	.0177
.0059		.0091	.0079		.0118	.0079		.0118	.0079		.0118	.0118		.0177
.0055		.0091	.0075		.0118	.0075		.0118	.0075		.0118	.0110		.0177
.0043		.0091	.0059		.0118	.0059		.0118	.0059		.0118	.0087		.0177
.0039		.0091	.0051		.0118	.0051		.0118	.0051		.0118	.0079		.0177
.0031		.0091	.0043		.0118	.0043		.0118	.0043		.0118	.0067		.0177
.0118	.059	.0118	.0157	.079	.0157	.0157	.118	.0157	.0157	.157	.0157	.0236	.197	.0236
.0106		.0118	.0142		.0157	.0142		.0157	.0142		.0157	.0213		.0236
.0102		.0118	.0134		.0157	.0134		.0157	.0134		.0157	.0201		.0236
.0079		.0118	.0106		.0157	.0106		.0157	.0106		.0157	.0161		.0236
.0071		.0118	.0094		.0157	.0094		.0157	.0094		.0157	.0142		.0236
.0059		.0118	.0079		.0157	.0079		.0157	.0079		.0157	.0118		.0236
.0071	.059	.0083	.0094	.079	.0110	.0094	.118	.0110	.0094	.157	.0110	.0142	.197	.0165
.0063		.0083	.0087		.0110	.0087		.0110	.0087		.0110	.0126		.0165
.0059		.0083	.0079		.0110	.0079		.0110	.0079		.0110	.0122		.0165
.0047		.0083	.0063		.0110	.0063		.0110	.0063		.0110	.0094		.0165
.0043		.0083	.0055		.0110	.0055		.0110	.0055		.0110	.0087		.0165
.0035		.0083	.0047		.0110	.0047		.0110	.0047		.0110	.0071		.0165
.0059	.048	.0059	.0079	.063	.0079	.0079	.098	.0079	.0079	.138	.0079	.0118	.169	.0118
.0055		.0059	.0071		.0079	.0071		.0079	.0071		.0079	.0106		.0118
.0051		.0059	.0067		.0079	.0067		.0079	.0067		.0079	.0102		.0118
.0039		.0059	.0055		.0079	.0055		.0079	.0055		.0079	.0079		.0118
.0035		.0059	.0047		.0079	.0047		.0079	.0047		.0079	.0071		.0118
.0031		.0059	.0039		.0079	.0039		.0079	.0039		.0079	.0059		.0118

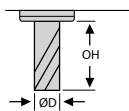
Technical data provided should be considered advisory only as variations may be necessary depending on the particular application.



TuffCut DM[®] Series 158

Recommended cutting data - Metric

HSC Roughing



Workpiece Material Group	Material Type	Coolant		OH	Vc-M/Min	Tool Diameter and Corner Radius																											
		Air	Emulsion			2.0 x R0.5			3.0 x R0.8			4.0 x R1.0																					
						Ap	Ae	Fz	Ap	Ae	Fz	Ap	Ae	Fz																			
Steel	Alloy & Tool Steel Below 260HB	●	○	3D	120	0.10	0.5	0.10	0.16	0.7	0.16	0.20	1.0	0.20																			
				4D	110	0.09									0.10	0.14	0.16	0.18	0.20														
				5D	100	0.09									0.10	0.14	0.16	0.17	0.20														
				6D	95	0.07									0.10	0.11	0.16	0.14	0.20														
				8D	85	0.06									0.10	0.10	0.16	0.12	0.20														
				10D	70	0.05									0.10	0.08	0.16	0.10	0.20														
	Pre-hardened Tool Steel HRC30-40	●	○	0.5	3D	95	0.08	0.7	0.09	0.13	0.7	0.14	0.16	1.0	0.18																		
					4D	85	0.07									0.09	0.12	0.14	0.14	0.18													
					5D	80	0.07									0.09	0.11	0.14	0.14	0.18													
					6D	75	0.05									0.09	0.09	0.14	0.11	0.18													
					8D	65	0.05									0.09	0.08	0.14	0.10	0.18													
					10D	55	0.04									0.09	0.06	0.14	0.08	0.18													
					Stainless Steel	M	x									●	3D	70	0.08	0.5	0.09	0.13	0.7	0.14	0.16	1.0	0.18						
																	4D	65	0.07									0.09	0.12	0.14	0.14	0.18	
5D	60	0.07	0.09	0.11				0.14	0.14	0.18																							
6D	55	0.05	0.09	0.09				0.14	0.11	0.18																							
8D	50	0.05	0.09	0.08				0.14	0.10	0.18																							
10D	40	0.04	0.09	0.06				0.14	0.08	0.18																							
Special Alloys	High Temp Alloys	x	●	0.4	3D	30	0.03	0.6	0.05	0.04	0.6	0.08	0.05	0.8	0.10																		
					4D	25	0.02									0.05	0.04	0.08	0.05	0.10													
					5D	25	0.02									0.05	0.03	0.08	0.04	0.10													
					6D	25	0.02									0.05	0.03	0.08	0.03	0.10													
					8D	20	0.02									0.05	0.02	0.08	0.03	0.10													
					10D	20	0.01									0.05	0.02	0.08	0.03	0.10													
					Titanium Alloys	x	●									0.4	3D	70	0.06	0.6	0.08	0.09	0.6	0.12	0.11	0.8	0.15						
																	4D	65	0.05									0.08	0.08	0.12	0.10	0.15	
																	5D	60	0.05									0.08	0.07	0.12	0.09	0.15	
																	6D	55	0.04									0.08	0.06	0.12	0.07	0.15	
	Cast Iron	K	●	●	0.5	3D	120	0.10	0.7	0.10	0.16	0.7	0.16	0.20	1.0	0.20																	
						4D	110	0.09									0.10	0.14	0.16	0.18	0.20												
						5D	100	0.09									0.10	0.14	0.16	0.17	0.20												
						6D	95	0.07									0.10	0.11	0.16	0.14	0.20												
8D						85	0.06	0.10									0.10	0.16	0.12	0.20													
10D						70	0.05	0.10									0.08	0.16	0.10	0.20													
Hardened Steels						Hardened Steels HRC45-50	●	○									0.5	3D	80	0.06	0.7	0.07	0.10	0.7	0.11	0.12	1.0	0.14					
																		4D	70	0.05									0.07	0.09	0.11	0.11	0.14
																		5D	70	0.05									0.07	0.08	0.11	0.10	0.14
																		6D	65	0.04									0.07	0.07	0.11	0.08	0.14
	8D	55	0.04	0.07	0.06				0.11	0.07	0.14																						
	10D	50	0.03	0.07	0.05				0.11	0.06	0.14																						
	Hardened Steels HRC50-55	●	x	0.4	3D				60	0.05	0.6	0.05	0.08	0.6	0.08	0.10		0.8	0.10														
					4D				55	0.05										0.05									0.07	0.08	0.09	0.10	
					5D				50	0.04										0.05									0.07	0.08	0.09	0.10	
					6D				50	0.03										0.05									0.05	0.08	0.07	0.10	
	8D	40	0.03	0.05	0.05	0.08	0.06	0.10																									
	10D	35	0.03	0.05	0.04	0.08	0.05	0.10																									

● Preferred ○ Possible x Not Possible

Technical data provided should be considered advisory only as variations may be necessary depending on the particular application.

TuffCut DM[®] Series 158

Recommended cutting data - Metric

HSC Roughing

Tool Diameter and Corner Radius														
6.0 x R1.5			8.0 x R2.0			10.0 x R2.0			12 x R2.0			16 x R3.0		
Ap	Ae	Fz	Ap	Ae	Fz	Ap	Ae	Fz	Ap	Ae	Fz	Ap	Ae	Fz
0.30	1.5	0.30	0.40	2.0	0.40	0.40	3.0	0.40	0.40	4.0	0.40	0.60	5.0	0.60
0.27		0.30	0.36		0.40	0.36		0.40	0.36		0.40	0.54		0.60
0.26		0.30	0.34		0.40	0.34		0.40	0.34		0.40	0.51		0.60
0.20		0.30	0.27		0.40	0.27		0.40	0.27		0.40	0.41		0.60
0.18		0.30	0.24		0.40	0.24		0.40	0.24		0.40	0.36		0.60
0.15		0.30	0.20		0.40	0.20		0.40	0.20		0.40	0.30		0.60
0.24	1.5	0.27	0.32	2.0	0.36	0.32	3.0	0.36	0.32	4.0	0.36	0.48	5.0	0.54
0.22		0.27	0.29		0.36	0.29		0.36	0.29		0.36	0.43		0.54
0.20		0.27	0.27		0.36	0.27		0.36	0.27		0.36	0.41		0.54
0.16		0.27	0.22		0.36	0.22		0.36	0.22		0.36	0.33		0.54
0.14		0.27	0.19		0.36	0.19		0.36	0.19		0.36	0.29		0.54
0.12		0.27	0.16		0.36	0.16		0.36	0.16		0.36	1.28		0.54
0.24	1.5	0.27	0.32	2.0	0.36	0.32	3.0	0.36	0.32	4.0	0.36	0.48	5.0	0.54
0.22		0.27	0.29		0.36	0.29		0.36	0.29		0.36	0.43		0.54
0.20		0.27	0.27		0.36	0.27		0.36	0.27		0.36	0.41		0.54
0.16		0.27	0.22		0.36	0.22		0.36	0.22		0.36	0.33		0.54
0.14		0.27	0.19		0.36	0.19		0.36	0.19		0.36	0.29		0.54
0.12		0.27	0.16		0.36	0.16		0.36	0.16		0.36	0.24		0.54
0.08	1.2	0.15	0.10	1.6	0.20	0.10	2.5	0.20	0.10	3.5	0.20	0.15	4.3	0.30
0.07		0.15	0.09		0.20	0.09		0.20	0.09		0.20	0.14		0.30
0.06		0.15	0.09		0.20	0.09		0.20	0.09		0.20	0.13		0.30
0.05		0.15	0.07		0.20	0.07		0.20	0.07		0.20	0.10		0.30
0.05		0.15	0.06		0.20	0.06		0.20	0.06		0.20	0.09		0.30
0.04		0.15	0.05		0.20	0.05		0.20	0.05		0.20	0.08		0.30
0.17	1.2	0.23	0.22	1.6	0.30	0.22	2.5	0.30	0.22	3.5	0.30	0.33	4.3	0.45
0.15		0.23	0.20		0.30	0.20		0.30	0.20		0.30	0.30		0.45
0.14		0.23	0.19		0.30	0.19		0.30	0.19		0.30	0.28		0.45
0.11		0.23	0.15		0.30	0.15		0.30	0.15		0.30	0.22		0.45
0.10		0.23	0.13		0.30	0.13		0.30	0.13		0.30	0.20		0.45
0.08		0.23	0.11		0.30	0.11		0.30	0.11		0.30	0.17		0.45
0.30	1.5	0.30	0.40	2.0	0.4	0.40	3.0	0.40	0.40	4.0	0.40	0.60	5.0	0.6
0.27		0.30	0.36		0.4	0.36		0.40	0.36		0.40	0.54		0.6
0.26		0.30	0.34		0.4	0.34		0.40	0.34		0.40	0.51		0.6
0.20		0.30	0.27		0.4	0.27		0.40	0.27		0.40	0.41		0.6
0.18		0.30	0.24		0.4	0.24		0.40	0.24		0.40	0.36		0.6
0.15		0.30	0.20		0.4	0.20		0.40	0.20		0.40	0.30		0.6
0.18	1.5	0.21	0.24	2.0	0.28	0.24	3.0	0.28	0.24	4.0	0.28	0.36	5.0	0.42
0.16		0.21	0.22		0.28	0.22		0.28	0.22		0.28	0.32		0.42
0.15		0.21	0.20		0.28	0.20		0.28	0.20		0.28	0.31		0.42
0.12		0.21	0.16		0.28	0.16		0.28	0.16		0.28	0.24		0.42
0.11		0.21	0.14		0.28	0.14		0.28	0.14		0.28	0.22		0.42
0.09		0.21	0.12		0.28	0.12		0.28	0.12		0.28	0.18		0.42
0.15	1.2	0.15	0.20	1.6	0.20	0.20	2.5	0.20	0.20	3.5	0.20	0.30	4.3	0.30
0.14		0.15	0.18		0.20	0.18		0.20	0.18		0.20	0.27		0.30
0.13		0.15	0.17		0.20	0.17		0.20	0.17		0.20	0.26		0.30
0.10		0.15	0.14		0.20	0.14		0.20	0.14		0.20	0.20		0.30
0.09		0.15	0.12		0.20	0.12		0.20	0.12		0.20	0.18		0.30
0.08		0.15	0.10		0.20	0.10		0.20	0.10		0.20	0.15		0.30

Technical data provided should be considered advisory only as variations may be necessary depending on the particular application.

TuffCut DM® Series 158

Recommended cutting data - Inch

Cutting Speed

Workpiece Material Group	Material Type	Coolant		1 x D	0.1 x D	2D/3D HSC	
		Air	Emulsion	Slotting	Profiling	2D/3D HSC	
				Vc-SFM			
Steels	P	Alloy & Tool Steels Below 260HB	●	○	330	590	655
		Pre-hardened Tools Steel HRC30-40	●	●	230	395	590
Stainless Steels	M	Stainless Steels 300 & PH series	x	●	260	330	490
Special Alloys	S	High Temp Alloys	x	●	80	165	230
		Titanium Alloys	x	●	195	330	395
Cast Irons	K	GG, GGG	●	●	330	655	720
Hardened Steels	H	Hardened Steels HRC45-50	●	○	245	295	460
		Hardened Steels HRC50-55	●	○	130	230	395

● Preferred ○ Possible x Not Possible

Feed Per Tooth

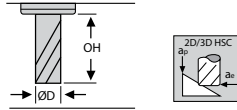
Workpiece Material Group	Material Type	Operation	Tool Diameter								
			.0787	.1181	.1575	.2362	.3150	.3937	.4724	.6299	
			2.0	3.0	4.0	6.0	8.0	10.0	12.0	16.0	
fz-in/tooth											
Steels	P	Alloy & Tool Steels Below 260HB	Slotting	.0004	.0006	.0008	.0012	.0016	.0020	.0024	.0031
			Profiling	.0008	.0012	.0016	.0024	.0031	.0039	.0047	.0063
			HSC 2D/3D	.0024	.0035	.0047	.0071	.0094	.0118	.0142	.0189
	Pre-hardened Tool Steels HRC30-40	Slotting	.0003	.0005	.0006	.0009	.0013	.0016	.0019	.0025	
		Profiling	.0006	.0009	.0013	.0019	.0025	.0031	.0038	.0050	
		HSC 2D/3D	.0020	.0030	.0039	.0059	.0079	.0098	.0118	.0157	
Stainless Steels	M	Stainless Steel 300 & PH series	Slotting	.0003	.0004	.0005	.0008	.0010	.0013	.0016	.0021
			Profiling	.0005	.0008	.0010	.0016	.0021	.0026	.0031	.0042
			HSC 2D/3D	.0016	.0024	.0031	.0047	.0063	.0079	.0094	.0126
Special Alloys	S	High Temp Alloys	Slotting	.0002	.0002	.0003	.0005	.0007	.0008	.0010	.0013
			Profiling	.0003	.0005	.0007	.0010	.0013	.0017	.0020	.0026
			HSC 2D/3D	.0008	.0012	.0016	.0024	.0031	.0039	.0047	.0063
		Titanium Alloys	Slotting	.0002	.0004	.0005	.0007	.0009	.0012	.0014	.0019
			Profiling	.0005	.0007	.0009	.0014	.0019	.0024	.0028	.0038
			HSC 2D/3D	.0016	.0024	.0031	.0047	.0063	.0079	.0094	.0126
Cast Irons	K	GG, GGG	Slotting	.0004	.0006	.0008	.0012	.0016	.0020	.0024	.0031
			Profiling	.0008	.0012	.0016	.0024	.0031	.0039	.0047	.0063
			HSC 2D/3D	.0024	.0035	.0047	.0071	.0094	.0118	.0142	.0189
Hardened Steels	H	Hardened Steels HRC45-50	Slotting	.0003	.0004	.0005	.0008	.0010	.0013	.0016	.0021
			Profiling	.0005	.0008	.0010	.0016	.0021	.0026	.0031	.0042
			HSC 2D/3D	.0016	.0024	.0031	.0047	.0063	.0079	.0094	.0126
		Hardened Steels HRC50-55	Slotting	.0002	.0003	.0004	.0006	.0008	.0010	.0012	.0016
			Profiling	.0004	.0006	.0008	.0012	.0016	.0020	.0024	.0031
			HSC 2D/3D	.0012	.0018	.0024	.0035	.0047	.0059	.0071	.0094

Technical data provided should be considered advisory only as variations may be necessary depending on the particular application.

TuffCut DM[®] Series 158

Recommended cutting data - Inch

Depth of Cut HSC 2D/3D Axial & Radial



Workpiece Material Group	Material Type	OH	Tool Diameter								
			.0787	.1181	.1575	.2362	.3150	.3937	.4724	.6299	
			2.0	3.0	4.0	6.0	8.0	10.0	12.0	16.0	
			Ap-in / Ae-in								
Steels	Alloy & Tool Steels Below 260HB	3D-4D	.0024	.0035	.0047	.0071	.0094	.0118	.0142	.0189	
		5D-6D	.0020	.0028	.0039	.0055	.0075	.0094	.0114	.0150	
		8D-10D	.0016	.0020	.0028	.0043	.0055	.0071	.0087	.0114	
	Pre-hardened Tool Steels HRC30-40	3D-4D	.0024	.0035	.0047	.0071	.0094	.0118	.0142	.0189	
		5D-6D	.0020	.0028	.0039	.0055	.0075	.0094	.0114	.0150	
		8D-10D	.0016	.0020	.0028	.0043	.0055	.0071	.0087	.0114	
Stainless Steels	Stainless Steel 300 & PH series	3D-4D	.0024	.0035	.0047	.0071	.0094	.0118	.0142	.0189	
		5D-6D	.0020	.0028	.0039	.0055	.0075	.0094	.0114	.0150	
		8D-10D	.0016	.0020	.0028	.0043	.0055	.0071	.0087	.0114	
Special Alloys	High Temp Alloys	3D-4D	.0016	.0024	.0031	.0047	.0063	.0079	.0094	.0126	
		5D-6D	.0012	.0020	.0024	.0039	.0051	.0063	.0075	.0102	
		8D-10D	.0008	.0016	.0020	.0028	.0039	.0047	.0055	.0075	
	Titanium Alloys	3D-4D	.0024	.0035	.0047	.0071	.0094	.0118	.0142	.0189	
		5D-6D	.0020	.0028	.0039	.0055	.0075	.0094	.0114	.0150	
		8D-10D	.0016	.0020	.0028	.0043	.0055	.0071	.0087	.0114	
Cast Irons	GG, GGG	3D-4D	.0024	.0035	.0047	.0071	.0094	.0118	.0142	.0189	
		5D-6D	.0020	.0028	.0039	.0055	.0075	.0094	.0114	.0150	
		8D-10D	.0016	.0020	.0028	.0043	.0055	.0071	.0087	.0114	
Hardened Steels	Hardened Steels HRC45-50	3D-4D	.0020	.0031	.0039	.0059	.0079	.0098	.0118	.0157	
		5D-6D	.0016	.0024	.0031	.0047	.0063	.0079	.0094	.0126	
		8D-10D	.0012	.0020	.0024	.0035	.0047	.0059	.0071	.0094	
	Hardened Steels HRC50-55	3D-4D	.0016	.0024	.0031	.0047	.0063	.0079	.0094	.0126	
		5D-6D	.0012	.0020	.0024	.0039	.0051	.0063	.0075	.0102	
		8D-10D	.0008	.0016	.0020	.0028	.0039	.0047	.0055	.0075	

Notes:

For profile machining adjust radial cut (Ae)

OH	Ae (x Ø)
3D-4D	0.10
5D-6D	0.07
8D-10D	0.05

Radial Cut (Ae)	Chip thickness Compensation factor
30%	1.10
20%	1.20
15%	1.40
10%	1.80
5%	2.30
1%	5.00

For slotting adjust axial cut (Ap)

OH	Ap (x Ø)
3D-4D	0.10
5D-6D	0.07
8D-10D	0.05

Technical data provided should be considered advisory only as variations may be necessary depending on the particular application.

TuffCut DM® Series 158

Recommended cutting data - Metric

Cutting Speed

Workpiece Material Group	Material Type	Coolant					
		Air	Emulsion	Slotting	Profiling	2D/3D HSC	
		Vc-M/Min					
Steels	P	Alloy & Tool Steels Below 260HB	●	○	100	180	200
		Pre-hardened Tools Steel HRC30-40	●	●	70	120	180
Stainless Steels	M	Stainless Steels 300 & PH series	x	●	80	100	150
Special Alloys	S	High Temp Alloys	x	●	25	50	70
		Titanium Alloys	x	●	60	100	120
Cast Irons	K	GG, GGG	●	●	100	200	220
Hardened Steels	H	Hardened Steels HRC45-50	●	○	75	90	140
		Hardened Steels HRC50-55	●	○	40	70	120

● Preferred ○ Possible x Not Possible

Feed Per Tooth

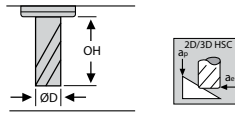
Workpiece Material Group	Material Type	Operation	Tool Diameter								
			2.0	3.0	4.0	6.0	8.0	10.0	12.0	16.0	
			fz-mm/tooth								
Steels	P	Alloy & Tool Steels Below 260HB	Slotting	0.010	0.015	0.020	0.030	0.040	0.050	0.060	0.080
		Profiling	0.020	0.030	0.040	0.060	0.080	0.100	0.120	0.160	
		HSC 2D/3D	0.060	0.090	0.120	0.180	0.240	0.300	0.360	0.480	
	Pre-hardened Tool Steels HRC30-40	Slotting	0.008	0.012	0.016	0.024	0.032	0.040	0.048	0.064	
		Profiling	0.016	0.024	0.032	0.048	0.064	0.080	0.096	0.128	
		HSC 2D/3D	0.050	0.075	0.100	0.150	0.200	0.250	0.300	0.400	
Stainless Steels	M	Stainless Steel 300 & PH series	Slotting	0.007	0.010	0.013	0.020	0.026	0.033	0.040	0.053
		Profiling	0.013	0.020	0.026	0.040	0.053	0.066	0.079	0.106	
		HSC 2D/3D	0.040	0.060	0.080	0.120	0.160	0.200	0.240	0.320	
Special Alloys	S	High Temp Alloys	Slotting	0.004	0.006	0.008	0.013	0.017	0.021	0.025	0.034
		Profiling	0.008	0.013	0.017	0.025	0.034	0.042	0.050	0.067	
		HSC 2D/3D	0.020	0.030	0.040	0.060	0.080	0.100	0.120	0.160	
	Titanium Alloys	Slotting	0.006	0.009	0.012	0.018	0.024	0.030	0.036	0.048	
		Profiling	0.012	0.018	0.024	0.036	0.048	0.060	0.072	0.096	
		HSC 2D/3D	0.040	0.060	0.080	0.120	0.160	0.200	0.240	0.320	
Cast Irons	K	GG, GGG	Slotting	0.010	0.015	0.020	0.030	0.040	0.050	0.060	0.080
		Profiling	0.020	0.030	0.040	0.060	0.080	0.100	0.120	0.160	
		HSC 2D/3D	0.060	0.090	0.120	0.180	0.240	0.300	0.360	0.480	
Hardened Steels	H	Hardened Steels HRC45-50	Slotting	0.007	0.010	0.013	0.020	0.026	0.033	0.040	0.053
		Profiling	0.013	0.020	0.026	0.040	0.053	0.066	0.079	0.106	
		HSC 2D/3D	0.040	0.060	0.080	0.120	0.160	0.200	0.240	0.320	
	Hardened Steels HRC50-55	Slotting	0.005	0.008	0.010	0.015	0.020	0.025	0.030	0.040	
		Profiling	0.010	0.015	0.020	0.030	0.040	0.050	0.060	0.080	
		HSC 2D/3D	0.030	0.045	0.060	0.090	0.120	0.150	0.180	0.240	

Technical data provided should be considered advisory only as variations may be necessary depending on the particular application.

TuffCut DM[®] Series 158

Recommended cutting data- Metric

Depth of Cut HSC 2D/3D Axial & Radial



Workpiece Material Group	Material Type	OH	Tool Diameter								
			2.0	3.0	4.0	6.0	8.0	10.0	12.0	16.0	
			Ap-mm / Ae-mm								
Steels	P	Alloy & Tool Steels Below 260HB	3D-4D	0.06	0.09	0.12	0.18	0.24	0.30	0.36	0.48
			5D-6D	0.05	0.07	0.10	0.14	0.19	0.24	0.29	0.38
			8D-10D	0.04	0.05	0.07	0.11	0.14	0.18	0.22	0.29
	Pre-hardened Tool Steels HRC30-40	3D-4D	0.06	0.09	0.12	0.18	0.24	0.30	0.36	0.48	
		5D-6D	0.05	0.07	0.10	0.14	0.19	0.24	0.29	0.38	
		8D-10D	0.04	0.05	0.07	0.11	0.14	0.18	0.22	0.29	
Stainless Steels	M	Stainless Steel 300 & PH series	3D-4D	0.06	0.09	0.12	0.18	0.24	0.30	0.36	0.48
			5D-6D	0.05	0.07	0.10	0.14	0.19	0.24	0.29	0.38
			8D-10D	0.04	0.05	0.07	0.11	0.14	0.18	0.22	0.29
Special Alloys	S	High Temp Alloys	3D-4D	0.04	0.06	0.08	0.12	0.16	0.20	0.24	0.32
			5D-6D	0.03	0.05	0.06	0.10	0.13	0.16	0.19	0.26
			8D-10D	0.02	0.04	0.05	0.07	0.10	0.12	0.14	0.19
		Titanium Alloys	3D-4D	0.06	0.09	0.12	0.18	0.24	0.30	0.36	0.48
			5D-6D	0.05	0.07	0.10	0.14	0.19	0.24	0.29	0.38
			8D-10D	0.04	0.05	0.07	0.11	0.14	0.18	0.22	0.29
Cast Irons	K	GG, GGG	3D-4D	0.06	0.09	0.12	0.18	0.24	0.30	0.36	0.48
			5D-6D	0.05	0.07	0.10	0.14	0.19	0.24	0.29	0.38
			8D-10D	0.04	0.05	0.07	0.11	0.14	0.18	0.22	0.29
Hardened Steels	H	Hardened Steels HRC45-50	3D-4D	0.05	0.08	0.10	0.15	0.20	0.25	0.30	0.40
			5D-6D	0.04	0.06	0.08	0.12	0.16	0.20	0.24	0.32
			8D-10D	0.03	0.05	0.06	0.09	0.12	0.15	0.18	0.24
		Hardened Steels HRC50-55	3D-4D	0.04	0.06	0.08	0.12	0.16	0.20	0.24	0.32
			5D-6D	0.03	0.05	0.06	0.10	0.13	0.16	0.19	0.26
			8D-10D	0.02	0.04	0.05	0.07	0.10	0.12	0.14	0.19

Notes:

For profile machining adjust radial cut (Ae)

OH	Ae (x Ø)
3D-4D	0.10
5D-6D	0.07
8D-10D	0.05

Radial Cut (Ae)	Chip thickness Compensation factor
30%	1.10
20%	1.20
15%	1.40
10%	1.80
5%	2.30
1%	5.00

For slotting adjust axial cut (Ap)

OH	Ap (x Ø)
3D-4D	0.10
5D-6D	0.07
8D-10D	0.05

Technical data provided should be considered advisory only as variations may be necessary depending on the particular application.



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