

## 380N Series Recommended Cutting Data - Profile Milling with 4xD Neck Length- Inch

Workpiece Material Group	I-S-O	Coolant			RWOC (Ae)		End Mill Diameter (Inch)					
		Emulsion	Air	MQL			5%	7%	3/8	1/2		
							2.3	1.96	5/8	3/4		
							Vc - SFM		fz - in/tooth			
Low Carbon Steels	P	○	●	○	1330	1035			.0023	.0030		
Medium Carbon Steels		○	●	○	1015	810			.0023	.0030		
Alloy Steels		○	●	○	930	755			.0023	.0030		
Die / Tool Steels		○	●	○	810	655			.0023	.0030		
Free Machining Stainless Steels	M	●	●	○	610	490			.0023	.0030		
Austenitic Stainless Steels		●	x	○	475	385			.0019	.0025		
Difficult Stainless Steels		●	x	○	370	295			.0015	.0020		
PH Stainless Steels		●	●	○	475	385			.0015	.0020		
Cobalt Chrome Alloys		●	x	○	370	295			.0015	.0020		
Duplex (22%)		●	x	○	295	265			.0015	.0020		
Super Duplex (25%)		●	x	○	220	175			.0015	.0020		
High Temp Alloys	S	●	x	x	160	-			.0009	.0013		
Titanium Alloys		●	○	○	340	295			.0015	.0020		
Gray Cast Irons	K	●	○	○	1465	1165			.0023	.0030		
Ductile Cast Irons		●	○	○	880	795			.0023	.0030		
Malleable Cast Irons		●	○	○	520	440			.0023	.0030		
Hardened Steels 45-50 HRC	H	○	●	○	550	-			.0019	.0025		
Hardened Steels 50-55 HRC		○	●	○	460	-			.0013	.0018		
Hardened Steels 55-60 HRC		○	●	○	295	-			.0008	.0010		

● Preferred    ○ Possible    x Not Possible

### Notes:

- For machining materials above 50 HRC, reduce stepover (ae) to 2-3% of DC for optimal performance

Spindle Maximum - Should the calculated spindle speed be more than your actual spindle maximum, use this formula: (Calculated Feed x Spindle Maximum)/Calculated Speed.

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

## 380N Series Recommended Cutting Data - Profile Milling with 5xD Neck Length- Inch

Workpiece Material Group	I S O	Coolant			RWOC (Ae)		End Mill Diameter (Inch)					
		Emulsion	Air	MQL			3/8	1/2	5/8	3/4		
							3%	5%				
							2.93	2.3				
		Vc - SFM										
Low Carbon Steels	P	○	●	○	1035	805	.0018	.0024	.0030	.0036		
Medium Carbon Steels		○	●	○	790	630	.0018	.0024	.0030	.0036		
Alloy Steels		○	●	○	725	590	.0018	.0024	.0030	.0036		
Die / Tool Steels		○	●	○	630	505	.0018	.0024	.0030	.0036		
Free Machining Stainless Steels	M	●	●	○	470	380	.0018	.0024	.0030	.0036		
Austenitic Stainless Steels		●	x	○	370	300	.0015	.0020	.0025	.0030		
Difficult Stainless Steels		●	x	○	285	230	.0012	.0016	.0020	.0024		
PH Stainless Steels		●	●	○	370	300	.0012	.0016	.0020	.0024		
Cobalt Chrome Alloys		●	x	○	285	225	.0012	.0016	.0020	.0024		
Duplex (22%)		●	x	○	230	205	.0012	.0016	.0020	.0024		
Super Duplex (25%)		●	x	○	170	135	.0012	.0016	.0020	.0024		
High Temp Alloys	S	●	x	x	125	-	.0008	.0010	.0013	.0015		
Titanium Alloys		●	○	○	265	230	.0012	.0016	.0020	.0024		
Gray Cast Irons		●	○	○	1140	905	.0018	.0024	.0030	.0036		
Ductile Cast Irons	K	●	○	○	685	620	.0018	.0024	.0030	.0036		
Malleable Cast Irons		●	○	○	405	345	.0018	.0024	.0030	.0036		
Hardened Steels 45-50 HRC	H	○	●	○	425	-	.0015	.0020	.0025	.0030		
Hardened Steels 50-55 HRC		○	●	○	355	-	.0011	.0014	.0018	.0021		
Hardened Steels 55-60 HRC		○	●	○	230	-	.0006	.0008	.0010	.0012		

● Preferred     ○ Possible     x Not Possible

### Notes:

- For machining materials above 50 HRC, reduce stepover (ae) to 2-3% of DC for optimal performance

Spindle Maximum - Should the calculated spindle speed be more than your actual spindle maximum, use this formula: (Calculated Feed x Spindle Maximum)/Calculated Speed.

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## 380 Series Recommended Cutting Data - Chip Thickness Compensation Factors - Inch

RWOC (ae)	Chip Thickness Compensation Factor
2%	3.57
3%	2.93
5%	2.30
7%	1.96
8%	1.84
10%	1.67

During profile milling with a radial width of less than 50% of the cutter diameter, the actual chip thickness at the cutting edge is less than the programmed chipload. The accompanying table shows the increase in chipload by given radial width percentage to adjust for chip thinning. Multiply your recommended chip thickness by the appropriate feed factor to establish the correct feed rate.

### 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.

 **WARNING:** This product can expose you to chemicals including cobalt, which is known to the State of California to cause cancer. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

WB3802024