

Milling with ISCAR  
**FLASHSOLID**  
ECO SOLID LINE

INCH VERSION



## ECI-3/4/5/6/7-VF & EBI-4/5/6-VF





Longer Tool Life



Higher Speed & Feed



Superior Surface Finish



Stronger Cutting Edge



Easy Chip Evacuation

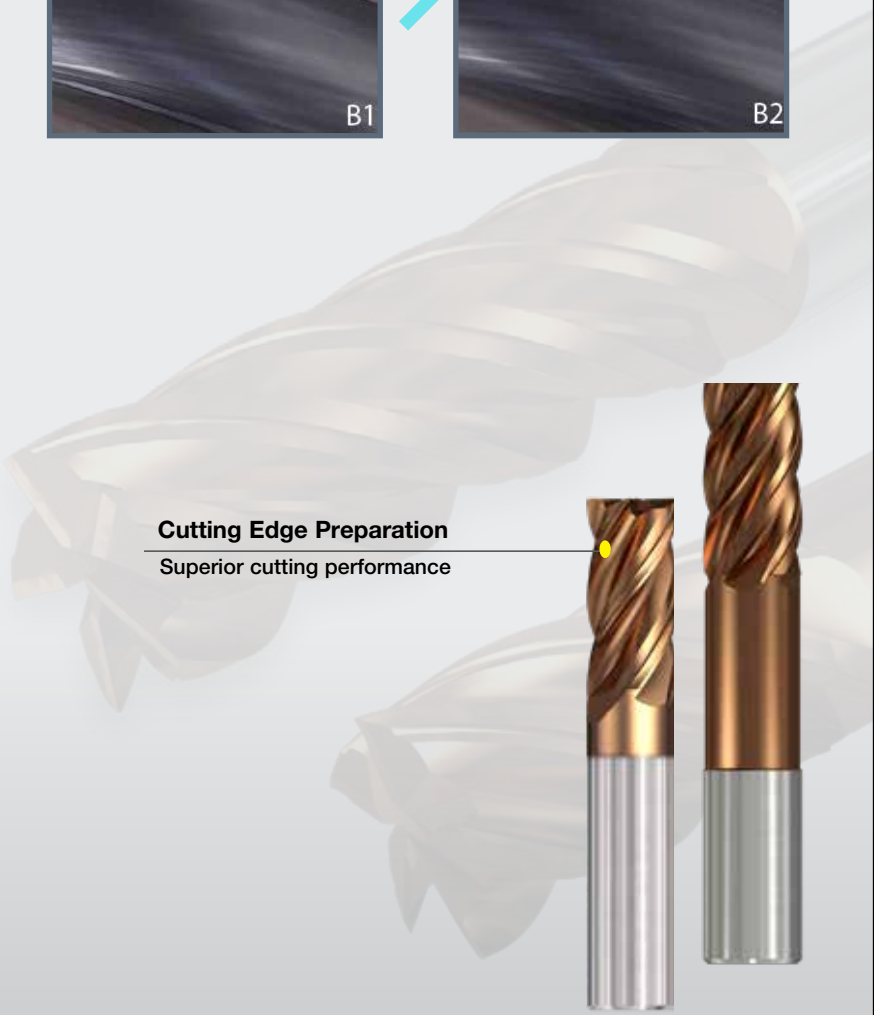
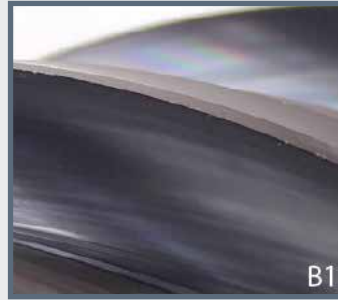
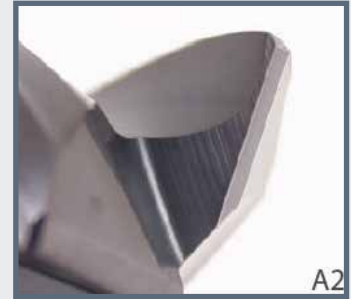


Reduced Cycle Time

Before



After



## Identification Code

**E C I - 4 - 625 - 1.0 / 4.0 C 125 VF 6**

<b>E</b>	→ Endmill Solid Carbide	<b>4.0</b>	→ Reach Length
<b>C</b>	→ C- Square B - Ball-Nose	<b>C</b>	→ Cylindrical Shank
<b>I</b>	→ I - Inch Units	<b>125</b>	→ Radius
<b>4</b>	→ No. of Flutes	<b>VF</b>	→ Variable Pitch
<b>625</b>	→ Cutting Diameter	<b>6</b>	→ Overall Length
<b>1.0</b>	→ Length of Cut		

## Tolerances

Cutting Diameter Dc: .000/- .002

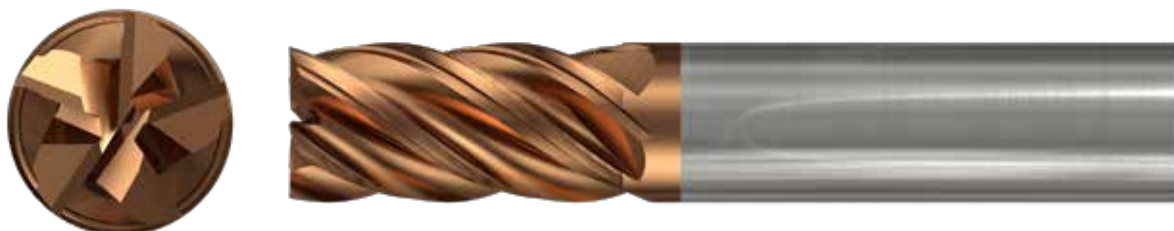
Shank Diameter DCONMS: +.0001/- .0004

Corner Radius Re: +/- .003

Overall length OAL: +/- .062

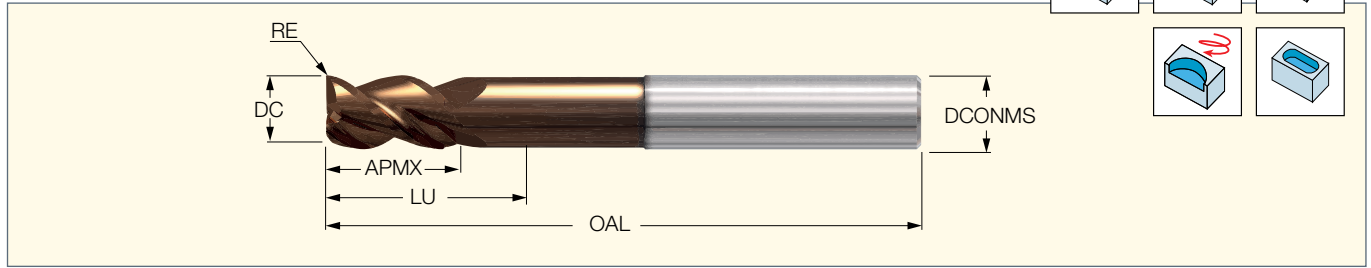
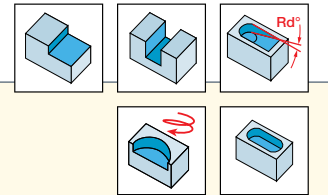
Length of cut APMX: +.062/- .000

Total Indicated Runout TIR: .0005 max.



**ECI-3-VF**

3 Flute Endmill With and Without Relieved Necks, Assorted Radii and Variable Pitch for Chatter Dampening



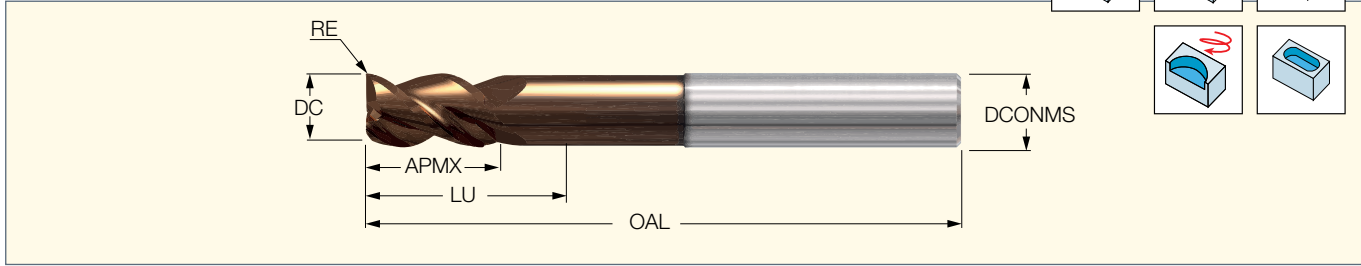
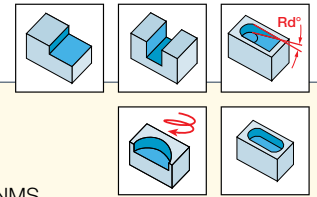
Designation	Dimensions								IC608
	DC	APMX	LU	RE	DCONMS	OAL	NOF <sup>(1)</sup>	Shank	
ECI-3 125-250C0VF1.5	.125	.2500	.2500	0	.125	1.500	3	C	●
ECI-3 125-250C010VF1.5	.125	.2500	.2500	.0100	.125	1.500	3	C	●
ECI-3 125-500C0VF2.5	.125	.5000	.5000	0	.125	2.500	3	C	●
ECI-3 125-500C010VF2.5	.125	.5000	.5000	.0100	.125	2.500	3	C	●
ECI-3 187-312C0VF2	.187	.3120	.3120	0	.187	2.000	3	C	●
ECI-3 187-312C010VF2	.187	.3120	.3120	.0100	.187	2.000	3	C	●
ECI-3 187-562C0VF2.5	.187	.5620	.5620	0	.187	2.500	3	C	●
ECI-3 187-562C010VF2.5	.187	.5620	.5620	.0100	.187	2.500	3	C	●
ECI-3 250-375C0VF2	.250	.3750	.3750	0	.250	2.000	3	C	●
ECI-3 250-375C020VF2	.250	.3750	.3750	.0200	.250	2.000	3	C	●
ECI-3 250-375/1.13C0VF4	.250	.3750	1.1250	0	.250	4.000	3	C	●
ECI-3 250-375/1.13C020VF4	.250	.3750	1.1250	.0200	.250	4.000	3	C	●
ECI-3 250-375/2.13C020VF4	.250	.3750	2.1250	.0200	.250	4.000	3	C	●
ECI-3 250-500C0VF2.5	.250	.5000	.5000	0	.250	2.500	3	C	●
ECI-3 250-500C020VF2.5	.250	.5000	.5000	.0200	.250	2.500	3	C	●
ECI-3 250-750C0VF2.5	.250	.7500	.7500	0	.250	2.500	3	C	●
ECI-3 250-750C020VF2.5	.250	.7500	.7500	.0200	.250	2.500	3	C	●
ECI-3 250-500/1.0C0VF3	.250	.5000	1.0000	0	.250	3.000	3	C	●
ECI-3 250-500/1.0C020VF3	.250	.5000	1.0000	.0200	.250	3.000	3	C	●
ECI-3 250-1.0C0VF3	.250	1.0000	1.0000	0	.250	3.000	3	C	●
ECI-3 250-1.0C020VF3	.250	1.0000	1.0000	.0200	.250	3.000	3	C	●
ECI-3 312-437C0VF2	.312	.4370	.4370	0	.312	2.000	3	C	●
ECI-3 312-437C020VF2	.312	.4370	.4370	.0200	.312	2.000	3	C	●
ECI-3 312-437/1.13C020VF4	.312	.4370	1.1250	.0200	.312	4.000	3	C	●
ECI-3 312-437/2.13C020VF4	.312	.4370	2.1250	.0200	.312	4.000	3	C	●
ECI-3 312-812C0VF2.5	.312	.8120	.8120	0	.312	2.500	3	C	●
ECI-3 312-812C020VF2.5	.312	.8120	.8120	.0200	.312	2.500	3	C	●
ECI-3 312-625/1.25C0VF3	.312	.6250	1.2500	0	.312	3.000	3	C	●
ECI-3 312-625/1.25C020VF3	.312	.6250	1.2500	.0200	.312	3.000	3	C	●
ECI-3 312-1.25C0VF3	.312	1.2500	1.2500	0	.312	3.000	3	C	●
ECI-3 312-1.25C020VF3	.312	1.2500	1.2500	.0200	.312	3.000	3	C	●
ECI-3 375-500C0VF2	.375	.5000	.5000	0	.375	2.000	3	C	●
ECI-3 375-500C020VF2	.375	.5000	.5000	.0200	.375	2.000	3	C	●
ECI-3 375-500/1.13C020VF4	.375	.5000	1.1250	.0200	.375	4.000	3	C	●
ECI-3 375-500/2.38C020VF6	.375	.5000	2.3750	.0200	.375	6.000	3	C	●
ECI-3 375-1.0C0VF3	.375	1.0000	1.0000	0	.375	3.000	3	C	●
ECI-3 375-1.0C020VF3	.375	1.0000	1.0000	.0200	.375	3.000	3	C	●
ECI-3 375-750/1.25C0VF3	.375	.7500	1.2500	0	.375	3.000	3	C	●
ECI-3 375-750/1.25C020VF3	.375	.7500	1.2500	.0200	.375	3.000	3	C	●
ECI-3 375-1.25C0VF3	.375	1.2500	1.2500	0	.375	3.000	3	C	●
ECI-3 375-1.25C020VF3	.375	1.2500	1.2500	.0200	.375	3.000	3	C	●
ECI-3 500-625C0VF2.5	.500	.6250	.6250	0	.500	2.500	3	C	●
ECI-3 500-625C030VF2.5	.500	.6250	.6250	.0300	.500	2.500	3	C	●
ECI-3 500-625/1.38C030VF4	.500	.6250	1.3750	.0300	.500	4.000	3	C	●

● Weldon shank available upon request. Substitute a W in place of the C in the listed designations (example: ECI-4 375-1.0C03VF2.5 = cylindrical type; ECI-4 375-1.0W03VF2.5 = Weldon type)

<sup>(1)</sup> Number of flutes

**ECI-3-VF**

3 Flute Endmill With and Without Relieved Necks, Assorted Radii and Variable Pitch for Chatter Dampening



Designation	Dimensions								Shank	IC608
	DC	APMX	LU	RE	DCONMS	OAL	NOF <sup>(1)</sup>			
ECI-3 500-625/2.38C030VF6	.500	.6250	2.3750	.0300	.500	6.000	3	C	●	
ECI-3 500-625/3.38C030VF6	.500	.6250	3.3750	.0300	.500	6.000	3	C	●	
ECI-3 500-625/4.13C030VF6	.500	.6250	4.1250	.0300	.500	6.000	3	C	●	
ECI-3 500-1.0C0VF3	.500	1.0000	1.0000	0	.500	3.000	3	C	●	
ECI-3 500-1.0C030VF3	.500	1.0000	1.0000	.0300	.500	3.000	3	C	●	
ECI-3 500-1.25C0VF3	.500	1.2500	1.2500	0	.500	3.000	3	C	●	
ECI-3 500-1.25C030VF3	.500	1.2500	1.2500	.0300	.500	3.000	3	C	●	
ECI-3 500-1.0/2.13C0VF4	.500	1.0000	2.1250	0	.500	4.000	3	C	●	
ECI-3 500-1.0/2.13C030VF4	.500	1.0000	2.1250	.0300	.500	4.000	3	C	●	
ECI-3 500-1.63C0VF4	.500	1.6250	1.6250	0	.500	4.000	3	C	●	
ECI-3 500-1.63C030VF4	.500	1.6250	1.6250	.0300	.500	4.000	3	C	●	
ECI-3 625-750C0VF3	.625	.7500	.7500	0	.625	3.000	3	C	●	
ECI-3 625-750C030VF3	.625	.7500	.7500	.0300	.625	3.000	3	C	●	
ECI-3 625-1.125C0VF3.5	.625	1.1250	1.1250	0	.625	3.500	3	C	●	
ECI-3 625-1.125C030VF3.5	.625	1.1250	1.1250	.0300	.625	3.500	3	C	●	
ECI-3 625-1.3/2.13C0VF4	.625	1.3000	2.1250	0	.625	4.000	3	C	●	
ECI-3 625-1.3/2.13C030VF4	.625	1.3000	2.1250	.0300	.625	4.000	3	C	●	
ECI-3 625-1.625C0VF4	.625	1.6250	1.6250	0	.625	4.000	3	C	●	
ECI-3 625-1.625C030VF4	.625	1.6250	1.6250	.0300	.625	4.000	3	C	●	
ECI-3 625-2.125C0VF4	.625	2.1250	2.1250	0	.625	4.000	3	C	●	
ECI-3 625-2.125C030VF4	.625	2.1250	2.1250	.0300	.625	4.000	3	C	●	
ECI-3 750-1.0C0VF3	.750	1.0000	1.0000	0	.750	3.000	3	C	●	
ECI-3 750-1.0C030VF3	.750	1.0000	1.0000	.0300	.750	3.000	3	C	●	
ECI-3 750-1.63C0VF4	.750	1.6250	1.6250	0	.750	4.000	3	C	●	
ECI-3 750-1.63C030VF4	.750	1.6250	1.6250	.0300	.750	4.000	3	C	●	
ECI-3 750-1.5/2.25C0VF5	.750	1.5000	2.2500	0	.750	5.000	3	C	●	
ECI-3 750-1.5/2.25C030VF5	.750	1.5000	2.2500	.0300	.750	5.000	3	C	●	
ECI-3 750-2.25C0VF5	.750	2.0000	2.2500	0	.750	5.000	3	C	●	
ECI-3 750-2.25C030VF5	.750	2.0000	2.2500	.0300	.750	5.000	3	C	●	
ECI-3 1.0-1.25C0VF4	1.000	1.2500	1.2500	0	1.000	4.000	3	C	●	
ECI-3 1.0-1.25C030VF4	1.000	1.2500	1.2500	.0300	1.000	4.000	3	C	●	
ECI-3 1.0-2.0C0VF4.5	1.000	2.0000	2.0000	0	1.000	4.500	3	C	●	
ECI-3 1.0-2.0C030VF4.5	1.000	2.0000	2.0000	.0300	1.000	4.500	3	C	●	
ECI-3 1.0-1.25/2.625C0VF6	1.000	1.2500	2.6250	0	1.000	6.000	3	C	●	
ECI-3 1.0-1.3/2.62C030VF6	1.000	1.2500	2.6250	.0300	1.000	6.000	3	C	●	
ECI-3 1.0-2.625C0VF6	1.000	2.6250	2.6250	0	1.000	6.000	3	C	●	
ECI-3 1.0-2.625C030VF6	1.000	2.6250	2.6250	.0300	1.000	6.000	3	C	●	

• Weldon shank available upon request. Substitute a W in place of the C in the listed designations (example: ECI-4 375-1.0C03VF2.5 = cylindrical type; ECI-4 375-1.0W03VF2.5 = Weldon type)

<sup>(1)</sup> Number of flutes

Slotting

ISO	Material Group No.	Material	Condition	Cutting Speed Recommendations V <sub>c</sub> (SFM)	Hardness HB	Feed (IPT) per Cutting Diameter (inch)										Axial Slotting	
						1/8	3/16	1/4	5/16	3/8	7/16	1/2	5/8	3/4	1	a <sub>p</sub> max	
P	1	Non-alloy steel and cast steel, free cutting steel	<0.25% C	Annealed	740-800	125	.0003	.0004	.0006	.0008	.0010	.0012	.0015	.0019	.0020	.0030	1xD
	2		≥0.25% C	Annealed	590-680	190	.0003	.0004	.0006	.0008	.0009	.0012	.0015	.0019	.0020	.0030	1xD
	3		<0.55% C	Quenched and tempered	475-650	250	.0003	.0004	.0006	.0008	.0009	.0012	.0015	.0019	.0020	.0030	1xD
	4		≥0.55% C	Annealed	475-650	220	.0003	.0004	.0006	.0008	.0009	.0012	.0015	.0019	.0020	.0030	1xD
	5			Quenched & tempered	420-530	300	.0003	.0004	.0006	.0008	.0009	.0012	.0015	.0019	.0020	.0030	1xD
	6	Low alloy & cast steel (less than 5% of alloying elements)	Annealed	475-650	200	.0003	.0004	.0006	.0008	.0009	.0012	.0015	.0019	.0020	.0030	1xD	
	7		Quenched & tempered	355-530	275	.0003	.0004	.0006	.0008	.0009	.0012	.0015	.0019	.0020	.0030	1xD	
	8		Quenched & tempered	380-530	300	.0003	.0004	.0006	.0008	.0009	.0012	.0015	.0019	.0020	.0030	1xD	
	9		Quenched & tempered	415-530	350	.0003	.0004	.0006	.0008	.0009	.0012	.0015	.0019	.0020	.0030	1xD	
	10	High alloyed steel, cast steel and tool steel	Annealed	380-530	200	.0003	.0004	.0006	.0008	.0009	.0012	.0015	.0019	.0020	.0030	1xD	
	11		Quenched & tempered	200-360	325	.0003	.0004	.0006	.0008	.0009	.0012	.0015	.0019	.0020	.0030	1xD	
	12	Stainless steel and cast steel	Ferritic/martensitic	230-475	200	.0003	.0004	.0006	.0008	.0009	.0012	.0015	.0019	.0020	.0030	1xD	
	13		Martensitic	175-440	240	.0003	.0004	.0006	.0008	.0009	.0012	.0015	.0019	.0020	.0030	1xD	
M	14	Stainless steel and cast steel	Austenitic, duplex	175-360	180	.0003	.0004	.0006	.0008	.0010	.0020	.0012	.0019	.0018	.0030	1xD	
K	15	Grey cast iron (GG)	Ferritic / pearlitic	235-740	180	.0003	.0004	.0006	.0008	.0009	.0030	.0012	.0019	.0018	.0030	1xD	
	16		Pearlitic/martensitic	380-700	260	.0003	.0004	.0006	.0008	.0009	.0030	.0012	.0019	.0018	.0030	1xD	
	17	Nodular cast iron (GGG)	Ferritic	440-800	160	.0003	.0004	.0006	.0008	.0009	.0010	.0012	.0019	.0018	.0030	1xD	
	18		Pearlitic	440-800	250	.0003	.0004	.0006	.0008	.0009	.0010	.0012	.0019	.0018	.0030	1xD	
	19	Malleable cast iron	Ferritic	440-800	130	.0003	.0004	.0006	.0008	.0009	.0010	.0012	.0019	.0018	.0030	1xD	
20	Pearlitic		415-710	230	.0003	.0004	.0006	.0008	.0009	.0010	.0012	.0019	.0018	.0030	1xD		
S	31	High temp. alloys	Fe based	Annealed	60-120	200	.0003	.0004	.0006	.0008	.0009	.0012	.0012	.0019	.0018	.0030	1xD
	32			Hardened	60-90	280	.0003	.0004	.0006	.0008	.0009	.0010	.0012	.0019	.0018	.0030	1xD
	33		Ni or Co based	Annealed	60-90	250	.0003	.0004	.0006	.0008	.0009	.0010	.0012	.0019	.0018	.0030	1xD
	34			Hardened	60-90	350	.0003	.0004	.0006	.0008	.0009	.0010	.0012	.0019	.0018	.0030	1xD
	35			Cast	60-90	320	.0003	.0004	.0006	.0008	.0009	.0010	.0012	.0019	.0018	.0030	1xD
	36	Titanium alloys	Pure	90-235	190	.0003	.0004	.0006	.0008	.0009	.0020	.0012	.0019	.0018	.0030	1xD	
	37		Alpha+Beta alloys, hardened	80-235	310	.0003	.0004	.0006	.0008	.0009	.0010	.0012	.0019	.0018	.0030	1xD	

# Roughing

ISO	Material Group No.	Material	Condition	Cutting Speed Recommendations Vc (SFM)	Hardness HB	Feed (IPT) per Cutting Diameter (inch)										Radial Profiling		
						1/8	3/16	1/4	5/16	3/8	7/16	1/2	5/8	3/4	1	ap	ae	
P	1	<0.25% C	Annealed	985-1000	125	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD	
	2	Non-alloy steel ≥0.25% C	Annealed	785-850	190	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD	
	3	and cast steel, free cutting steel	Quenched and tempered	630-810	250	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD	
	4	≥0.55% C	Annealed	630-810	220	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD	
	5		Quenched & tempered	560-660	300	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD	
	6	Low alloy & cast steel (less than 5% of alloying elements)	Annealed	630-810	200	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD	
	7		Quenched & tempered	470-660	275	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD	
	8		Quenched & tempered	500-660	300	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD	
	9		Quenched & tempered	550-660	350	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD	
	10	High alloyed steel, cast steel and tool steel	Annealed	500-660	200	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD	
	11		Quenched & tempered	270-450	325	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD	
	12	Stainless steel and cast steel	Ferritic/martensitic	310-590	200	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD	
	13		Martensitic	235-550	240	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD	
M	14	Stainless steel and cast steel	Austenitic, duplex	235-450	180	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD	
K	15	Grey cast iron (GG)	Ferritic / pearlitic	310-925	180	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD	
	16		Pearlitic/martensitic	500-875	260	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD	
	17	Nodular cast iron (GGG)	Ferritic	590-1000	160	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD	
	18		Pearlitic	590-1000	250	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD	
	19	Malleable cast iron	Ferritic	590-1000	130	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD	
	20		Pearlitic	550-890	230	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD	
S	31	High temp. alloys	Fe based	Annealed	80-150	200	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD
	32			Hardened	80-115	280	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD
	33	Ni or Co based	Annealed	80-115	250	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD	
	34		Hardened	80-115	350	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD	
	35		Cast	80-115	320	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD	
	36	Titanium alloys	Pure	120-295	190	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD	
	37		Alpha+Beta alloys, hardened	110-220	310	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD	
H	38	Hardened Steel	Hardened	110-210	55 HRC	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.02xD	
	39		Hardened	110-145	60 HRC	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.02xD	
	40	Chilled Cast Iron	Cast	250-320	400	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.02xD	
	41	Cast Iron	Hardened	110-210	55 HRC	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.02xD	

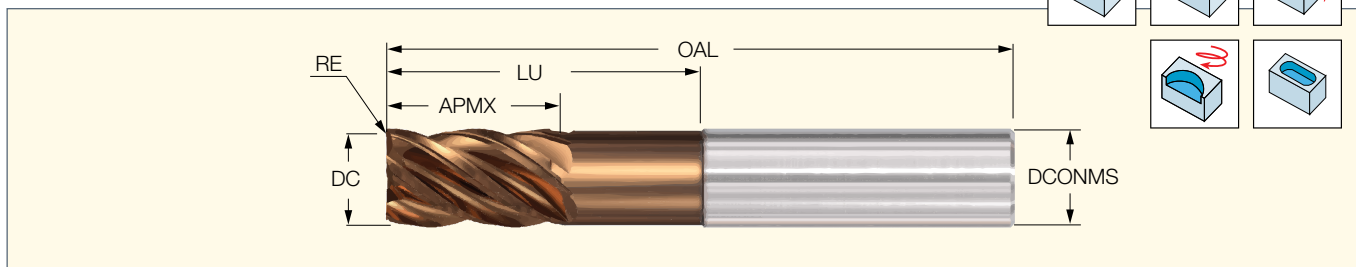


## Semi-Finish and Finishing

ISO	Material Group No.	Material	Condition	Cutting Speed Recommendations V <sub>c</sub> (SFM)	Hardness HB	Feed (IPT) per Cutting Diameter (inch)										Radial Profiling		
						1/8	3/16	1/4	5/16	3/8	7/16	1/2	5/8	3/4	1	a <sub>p</sub>	a <sub>e</sub>	
P	1	<0.25% C	Annealed	1230	125	.0009	.0013	.0017	.0021	.0025	.0030	.0034	.0042	.0050	.0068	1xD	.05xD	
	2		Annealed	1015	190	.0009	.0013	.0017	.0021	.0025	.0030	.0034	.0042	.0050	.0068	1xD	.05xD	
	3	Non-alloy steel and cast steel, free cutting steel	<0.55% C	Quenched and tempered	900	250	.0009	.0013	.0017	.0021	.0025	.0030	.0034	.0042	.0050	.0068	1xD	.05xD
	4			Annealed	900	220	.0009	.0013	.0017	.0021	.0025	.0030	.0034	.0042	.0050	.0068	1xD	.05xD
	5	≥0.55% C	Quenched & tempered	760	300	.0009	.0013	.0017	.0021	.0025	.0030	.0034	.0042	.0050	.0068	1xD	.05xD	
	6		Annealed	900	200	.0009	.0013	.0017	.0021	.0025	.0030	.0034	.0042	.0050	.0068	1xD	.05xD	
	7	Low alloy & cast steel (less than 5% of alloying elements)		Quenched & tempered	710	275	.0009	.0013	.0017	.0021	.0025	.0030	.0034	.0042	.0050	.0068	1xD	.05xD
	8			Quenched & tempered	730	300	.0009	.0013	.0017	.0021	.0025	.0030	.0034	.0042	.0050	.0068	1xD	.05xD
	9			Quenched & tempered	760	350	.0009	.0013	.0017	.0021	.0025	.0030	.0034	.0042	.0050	.0068	1xD	.05xD
	10	High alloyed steel, cast steel and tool steel		Annealed	730	200	.0009	.0013	.0017	.0021	.0025	.0030	.0034	.0042	.0050	.0068	1xD	.05xD
	11			Quenched & tempered	450	325	.0009	.0013	.0017	.0021	.0025	.0030	.0034	.0042	.0050	.0068	1xD	.05xD
	12	Stainless steel and cast steel		Ferritic/martensitic	570	200	.0009	.0013	.0017	.0021	.0025	.0030	.0034	.0042	.0050	.0068	1xD	.05xD
	13			Martensitic	490	240	.0009	.0013	.0017	.0021	.0025	.0030	.0034	.0042	.0050	.0068	1xD	.05xD
M	14	Stainless steel and cast steel	Austenitic, duplex	425	180	.0009	.0013	.0017	.0021	.0025	.0030	.0034	.0042	.0050	.0068	1xD	.05xD	
K	15	Grey cast iron (GG)	Ferritic / pearlitic	780	180	.0009	.0013	.0017	.0021	.0025	.0030	.0034	.0042	.0050	.0068	1xD	.05xD	
	16		Pearlitic/martensitic	870	260	.0009	.0013	.0017	.0021	.0025	.0030	.0034	.0042	.0050	.0068	1xD	.05xD	
	17	Nodular cast iron (GGG)	Ferritic	990	160	.0009	.0013	.0017	.0021	.0025	.0030	.0034	.0042	.0050	.0068	1xD	.05xD	
	18		Pearlitic	990	250	.0009	.0013	.0017	.0021	.0025	.0030	.0034	.0042	.0050	.0068	1xD	.05xD	
	19	Malleable cast iron	Ferritic	990	130	.0009	.0013	.0017	.0021	.0025	.0030	.0034	.0042	.0050	.0068	1xD	.05xD	
20	Pearlitic		900	230	.0009	.0013	.0017	.0021	.0025	.0030	.0034	.0042	.0050	.0068	1xD	.05xD		
S	31	High temp. alloys	Fe based	Annealed	145	200	.0009	.0013	.0017	.0021	.0025	.0030	.0034	.0042	.0050	.0068	1xD	.05xD
	32			Hardened	120	280	.0009	.0013	.0017	.0021	.0025	.0030	.0034	.0042	.0050	.0068	1xD	.05xD
	33	Ni or Co based	Annealed	120	250	.0009	.0013	.0017	.0021	.0025	.0030	.0034	.0042	.0050	.0068	1xD	.05xD	
	34		Hardened	120	350	.0009	.0013	.0017	.0021	.0025	.0030	.0034	.0042	.0050	.0068	1xD	.05xD	
	35	Cast		120	320	.0009	.0013	.0017	.0021	.0025	.0030	.0034	.0042	.0050	.0068	1xD	.05xD	
	36		Pure	260	190	.0009	.0013	.0017	.0021	.0025	.0030	.0034	.0042	.0050	.0068	1xD	.05xD	
	37	Titanium alloys	Alpha+Beta alloys, hardened	250	310	.0009	.0013	.0017	.0021	.0025	.0030	.0034	.0042	.0050	.0068	1xD	.05xD	

**ECI-4-VF**

4 Flute Endmill With and Without Relieved Necks, Assorted Radii and Variable Pitch for Chatter Dampening



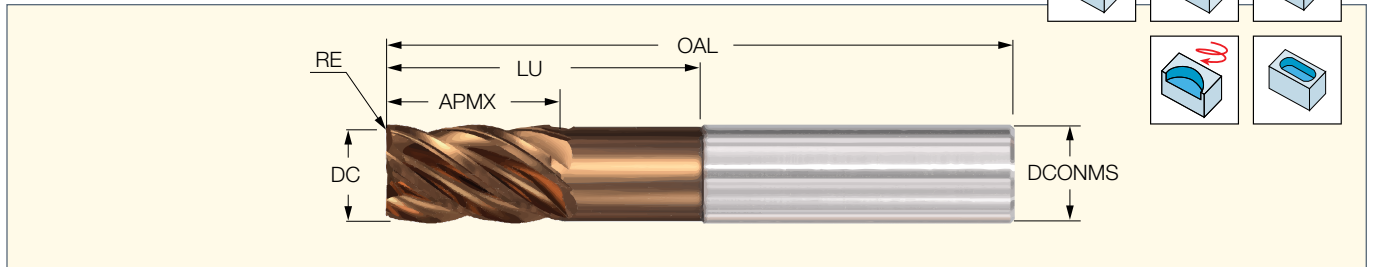
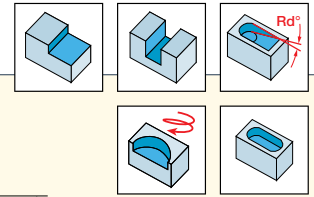
Designation	Dimensions							Shank	IC608
	DC	APMX	LU	RE	DCONMS	OAL	NOF <sup>(1)</sup>		
ECI-4 125-500C0VF1.5	.125	.5000	.5000	0	.125	1.500	4	C	●
ECI-4 125-500C010VF1.5	.125	.5000	.5000	.0100	.125	1.500	4	C	●
ECI-4 125-500C015VF1.5	.125	.5000	.5000	.0150	.125	1.500	4	C	●
ECI-4 125-500C030VF1.5	.125	.5000	.5000	.0300	.125	1.500	4	C	●
ECI-4 187-625C010VF2	.187	.6250	.6250	.0100	.187	2.000	4	C	●
ECI-4 187-625C0VF2	.188	.6250	.6250	0	.188	2.000	4	C	●
ECI-4 187-625C015VF2	.188	.6250	.6250	.0150	.188	2.000	4	C	●
ECI-4 187-625C030VF2	.188	.6250	.6250	.0300	.188	2.000	4	C	●
ECI-4 250-375C0VF2	.250	.3750	.3750	0	.250	2.000	4	C	●
ECI-4 250-375C010VF2	.250	.3750	.3750	.0100	.250	2.000	4	C	●
ECI-4 250-375C015VF2	.250	.3750	.3750	.0150	.250	2.000	4	C	●
ECI-4 250-375C030VF2	.250	.3750	.3750	.0300	.250	2.000	4	C	●
ECI-4 250-375C06VF2	.250	.3750	.3750	.0600	.250	2.000	4	C	●
ECI-4 250-500/1.25C0VF3	.250	.5000	1.2500	0	.250	3.000	4	C	●
ECI-4 250-500/1.25C015VF3	.250	.5000	1.2500	.0150	.250	3.000	4	C	●
ECI-4 250-500/1.25C03VF3	.250	.5000	1.2500	.0300	.250	3.000	4	C	●
ECI-4 250-500/1.25C06VF3	.250	.5000	1.2500	.0600	.250	3.000	4	C	●
ECI-4 250-500/2.12C0VF4	.250	.5000	2.1250	0	.250	4.000	4	C	●
ECI-4 250-500/2.12C03VF4	.250	.5000	2.1250	.0300	.250	4.000	4	C	●
ECI-4 250-500/2.12C06VF4	.250	.5000	2.1250	.0600	.250	4.000	4	C	●
ECI-4 250-500/2.12C015VF4	.250	.5000	2.1250	.0150	.250	4.000	4	C	●
ECI-4 250-750C0VF2.5	.250	.7500	.7500	0	.250	2.500	4	C	●
ECI-4 250-750C010VF2.5	.250	.7500	.7500	.0100	.250	2.500	4	C	●
ECI-4 250-750C015VF2.5	.250	.7500	.7500	.0150	.250	2.500	4	C	●
ECI-4 250-750C03VF2.5	.250	.7500	.7500	.0300	.250	2.500	4	C	●
ECI-4 250-750C06VF2.5	.250	.7500	.7500	.0600	.250	2.500	4	C	●
ECI-4 250-1.0C0VF3	.250	1.0000	1.0000	0	.250	3.000	4	C	●
ECI-4 250-1.0C010VF3	.250	1.0000	1.0000	.0100	.250	3.000	4	C	●
ECI-4 250-1.0C015VF3	.250	1.0000	1.0000	.0150	.250	3.000	4	C	●
ECI-4 250-1.0C03VF3	.250	1.0000	1.0000	.0300	.250	3.000	4	C	●
ECI-4 250-1.0C06VF3	.250	1.0000	1.0000	.0600	.250	3.000	4	C	●
ECI-4 250-1.25C0VF4	.250	1.2500	1.2500	0	.250	4.000	4	C	●
ECI-4 250-1.25C015VF4	.250	1.2500	1.2500	.0150	.250	4.000	4	C	●
ECI-4 250-1.25C03VF4	.250	1.2500	1.2500	.0300	.250	4.000	4	C	●
ECI-4 250-1.25C06VF4	.250	1.2500	1.2500	.0600	.250	4.000	4	C	●
ECI-4 250-500/1.25C010VF3	.250	1.2500	.5000	.0100	.250	3.000	4	C	●
ECI-4 250-1.75C0VF4	.250	1.7500	1.7500	0	.250	4.000	4	C	●
ECI-4 250-1.75C015VF4	.250	1.7500	1.7500	.0150	.250	4.000	4	C	●
ECI-4 250-1.75C03VF4	.250	1.7500	1.7500	.0300	.250	4.000	4	C	●
ECI-4 250-1.75C06VF4	.250	1.7500	1.7500	.0600	.250	4.000	4	C	●
ECI-4 312-500C010VF2	.312	.5000	.5000	.0100	.312	2.000	4	C	●
ECI-4 312-875C010VF2.5	.312	.8750	.8750	.0100	.312	2.500	4	C	●
ECI-4 312-1.0C010VF3	.312	1.0000	1.0000	.0100	.312	3.000	4	C	●
ECI-4 312-500C0VF2	.313	.5000	.5000	0	.313	2.000	4	C	●
ECI-4 312-500C015VF2	.313	.5000	.5000	.0150	.313	2.000	4	C	●
ECI-4 312-500C03VF2	.313	.5000	.5000	.0300	.313	2.000	4	C	●
ECI-4 312-500C06VF2	.313	.5000	.5000	.0600	.313	2.000	4	C	●
ECI-4 312-875C0VF2.5	.313	.8750	.8750	0	.313	2.500	4	C	●
ECI-4 312-875C015VF2.5	.313	.8750	.8750	.0150	.313	2.500	4	C	●
ECI-4 312-875C03VF2.5	.313	.8750	.8750	.0300	.313	2.500	4	C	●
ECI-4 312-875C06VF2.5	.313	.8750	.8750	.0600	.313	2.500	4	C	●

<sup>(1)</sup> Number of flutes

• Weldon shank available upon request. Substitute a **W** in place of the **C** in the listed designations (example - ECI-4 375-1.0**C**03VF2.5 = cylindrical type; ECI-4 375-1.0**W**03VF2.5 = Weldon type)

**ECI-4-VF** Continued

4 Flute Endmill With and Without Relieved Necks, Assorted Radii and Variable Pitch for Chatter Dampening



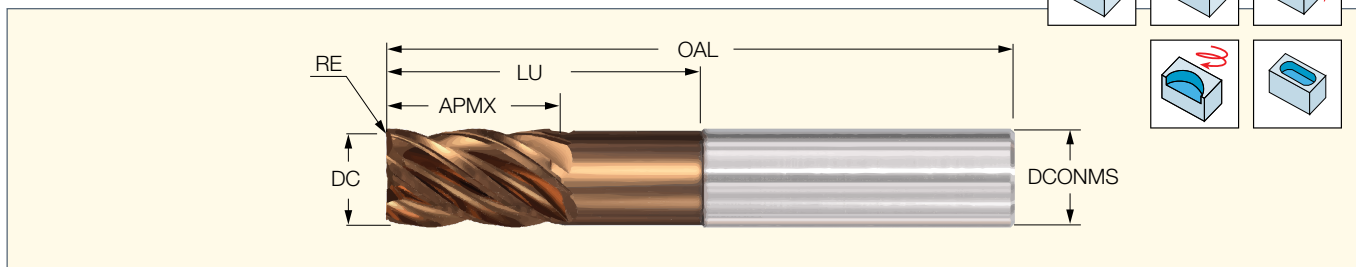
Designation	Dimensions								IC608
	DC	APMX	LU	RE	DCONMS	OAL	NOF <sup>(1)</sup>	Shank	
ECI-4 312-1.0C0VF3	.313	1.0000	1.0000	0	.313	3.000	4	C	●
ECI-4 312-1.0C015VF3	.313	1.0000	1.0000	.0150	.313	3.000	4	C	●
ECI-4 312-1.0C03VF3	.313	1.0000	1.0000	.0300	.313	3.000	4	C	●
ECI-4 312-1.0C06VF3	.313	1.0000	1.0000	.0600	.313	3.000	4	C	●
ECI-4 312-1.25C0VF4	.313	1.2500	1.2500	0	.313	4.000	4	C	●
ECI-4 312-1.25C015VF4	.313	1.2500	1.2500	.0150	.313	4.000	4	C	●
ECI-4 312-1.25C03VF4	.313	1.2500	1.2500	.0300	.313	4.000	4	C	●
ECI-4 312-1.25C06VF4	.313	1.2500	1.2500	.0600	.313	4.000	4	C	●
ECI-4 312-1.62C0VF4	.313	1.6250	1.6250	0	.313	4.000	4	C	●
ECI-4 312-1.62C03VF4	.313	1.6250	1.6250	.0300	.313	4.000	4	C	●
ECI-4 312-1.62C06VF4	.313	1.6250	1.6250	.0600	.313	4.000	4	C	●
ECI-4 312-1.625C015VF4	.313	1.6250	1.6250	.0150	.313	4.000	4	C	●
ECI-4 375-500C0VF2	.375	.5000	.5000	0	.375	2.000	4	C	●
ECI-4 375-500C010VF2	.375	.5000	.5000	.0100	.375	2.000	4	C	●
ECI-4 375-500C015VF2	.375	.5000	.5000	.0150	.375	2.000	4	C	●
ECI-4 375-500C03VF2	.375	.5000	.5000	.0300	.375	2.000	4	C	●
ECI-4 375-500C06VF2	.375	.5000	.5000	.0600	.375	2.000	4	C	●
ECI-4 375-500W0VF2	.375	.5000	.5000	0	.375	2.000	4	W	●
ECI-4 375-500W015VF2	.375	.5000	.5000	.0150	.375	2.000	4	W	●
ECI-4 375-500W03VF2	.375	.5000	.5000	.0300	.375	2.000	4	W	●
ECI-4 375-500W06VF2	.375	.5000	.5000	.0600	.375	2.000	4	W	●
ECI-4 375-750/1.2C03VF3	.375	.7500	1.2500	.0300	.375	3.000	4	C	●
ECI-4 375-750/1.2W03VF3	.375	.7500	1.2500	.0300	.375	3.000	4	W	●
ECI-4 375-750/1.25C0VF3	.375	.7500	1.2500	0	.375	3.000	4	C	●
ECI-4 375-750/1.25C06VF3	.375	.7500	1.2500	.0600	.375	3.000	4	C	●
ECI-4 375-750/1.25W0VF3	.375	.7500	1.2500	0	.375	3.000	4	W	●
ECI-4 375-750/1.25W06VF3	.375	.7500	1.2500	.0600	.375	3.000	4	W	●
ECI-4 375-750/125C015VF3	.375	.7500	1.2500	.0150	.375	3.000	4	C	●
ECI-4 375-750/125W015VF3	.375	.7500	1.2500	.0150	.375	3.000	4	W	●
ECI-4 375-750/2.12C0VF4	.375	.7500	2.1250	0	.375	4.000	4	C	●
ECI-4 375-750/2.12C03VF4	.375	.7500	2.1250	.0300	.375	4.000	4	C	●
ECI-4 375-750/2.12C06VF4	.375	.7500	2.1250	.0600	.375	4.000	4	C	●
ECI-4 375-750/2.12W0VF4	.375	.7500	2.1250	0	.375	4.000	4	W	●
ECI-4 375-750/2.12W03VF4	.375	.7500	2.1250	.0300	.375	4.000	4	W	●
ECI-4 375-750/2.12W06VF4	.375	.7500	2.1250	.0600	.375	4.000	4	W	●
ECI-4 375-750/212C015VF4	.375	.7500	2.1250	.0150	.375	4.000	4	C	●
ECI-4 375-750/212W015VF4	.375	.7500	2.1250	.0150	.375	4.000	4	W	●
ECI-4 375-1.0C0VF2.5	.375	1.0000	1.0000	0	.375	2.500	4	C	●
ECI-4 375-1.0C0VF3	.375	1.0000	1.0000	0	.375	3.000	4	C	●
ECI-4 375-1.0C010VF2	.375	1.0000	1.0000	.0100	.375	2.000	4	C	●
ECI-4 375-1.0C015VF2	.375	1.0000	1.0000	.0150	.375	2.500	4	C	●
ECI-4 375-1.0C015VF3	.375	1.0000	1.0000	.0150	.375	3.000	4	C	●
ECI-4 375-1.0C03VF2.5	.375	1.0000	1.0000	.0300	.375	2.500	4	C	●
ECI-4 375-1.0C03VF3	.375	1.0000	1.0000	.0300	.375	3.000	4	C	●
ECI-4 375-1.0C06VF2.5	.375	1.0000	1.0000	.0600	.375	2.500	4	C	●
ECI-4 375-1.0C06VF3	.375	1.0000	1.0000	.0600	.375	3.000	4	C	●
ECI-4 375-1.0W0VF2.5	.375	1.0000	1.0000	0	.375	2.500	4	W	●
ECI-4 375-1.0W0VF3	.375	1.0000	1.0000	0	.375	3.000	4	W	●
ECI-4 375-1.0W015VF2	.375	1.0000	1.0000	.0150	.375	2.000	4	W	●
ECI-4 375-1.0W015VF3	.375	1.0000	1.0000	.0150	.375	3.000	4	W	●
ECI-4 375-1.0W03VF2.5	.375	1.0000	1.0000	.0300	.375	2.500	4	W	●

<sup>(1)</sup> Number of flutes

● Weldon shank available upon request. Substitute a **W** in place of the **C** in the listed designations (example - ECI-4 375-1.0C03VF2.5 = cylindrical type; ECI-4 375-1.0W03VF2.5 = Weldon type)

**ECI-4-VF** Continued

4 Flute Endmill With and Without Relieved Necks, Assorted Radii and Variable Pitch for Chatter Dampening



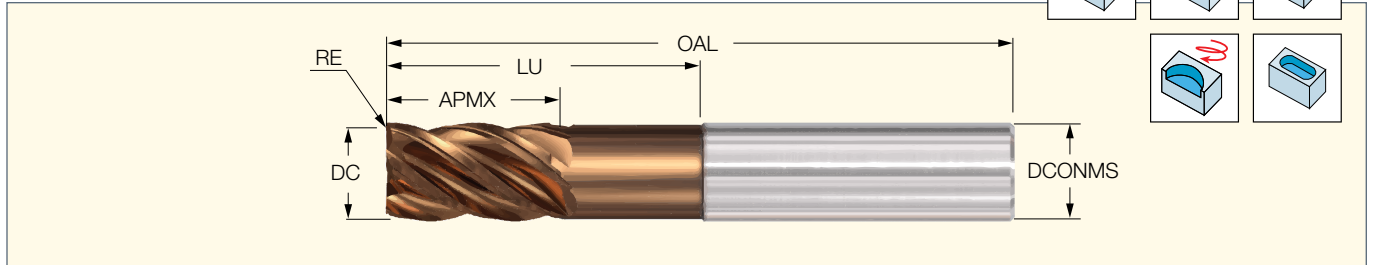
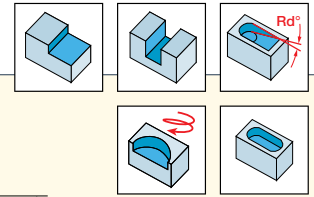
Designation	Dimensions							Shank	IC608
	DC	APMX	LU	RE	DCONMS	OAL	NOF <sup>(1)</sup>		
ECI-4 375-1.0W03VF3	.375	1.0000	1.0000	.0300	.375	3.000	4	W	●
ECI-4 375-1.0W06VF2.5	.375	1.0000	1.0000	.0600	.375	2.500	4	W	●
ECI-4 375-1.0W06VF3	.375	1.0000	1.0000	.0600	.375	3.000	4	W	●
ECI-4 375-750/125C010VF3	.375	1.2500	.7500	.0100	.375	3.000	4	C	●
ECI-4 375-1.5C0VF4	.375	1.5000	1.5000	0	.375	4.000	4	C	●
ECI-4 375-1.5C015VF4	.375	1.5000	1.5000	.0150	.375	4.000	4	C	●
ECI-4 375-1.5C03VF4	.375	1.5000	1.5000	.0300	.375	4.000	4	C	●
ECI-4 375-1.5C06VF4	.375	1.5000	1.5000	.0600	.375	4.000	4	C	●
ECI-4 375-1.5W0VF4	.375	1.5000	1.5000	0	.375	4.000	4	W	●
ECI-4 375-1.5W015VF4	.375	1.5000	1.5000	.0150	.375	4.000	4	W	●
ECI-4 375-1.5W03VF4	.375	1.5000	1.5000	.0300	.375	4.000	4	W	●
ECI-4 375-1.5W06VF4	.375	1.5000	1.5000	.0600	.375	4.000	4	W	●
ECI-4 375-750/212C010VF4	.375	2.1250	.7500	.0100	.375	4.000	4	C	●
ECI-4 375-2.4C0VF5	.375	2.5000	2.5000	0	.375	5.000	4	C	●
ECI-4 375-2.4W0VF5	.375	2.5000	2.4000	0	.375	5.000	4	W	●
ECI-4 375-2.5C015VF5	.375	2.5000	2.5000	.0150	.375	5.000	4	C	●
ECI-4 375-2.5C03VF5	.375	2.5000	2.5000	.0300	.375	5.000	4	C	●
ECI-4 375-2.5C06VF5	.375	2.5000	2.5000	.0600	.375	5.000	4	C	●
ECI-4 375-2.5W015VF5	.375	2.5000	2.5000	.0150	.375	5.000	4	W	●
ECI-4 375-2.5W03VF5	.375	2.5000	2.5000	.0300	.375	5.000	4	W	●
ECI-4 375-2.5W06VF5	.375	2.5000	2.5000	.0600	.375	5.000	4	W	●
ECI-4 437-625C0VF2.75	.437	.6250	.6250	0	.437	2.750	4	C	●
ECI-4 437-625C015VF2.7	.437	.6250	.6250	.0150	.437	2.750	4	C	●
ECI-4 437-625C03VF2.7	.437	.6250	.6250	.0300	.437	2.750	4	C	●
ECI-4 437-625C06VF2.75	.437	.6250	.6250	.0600	.437	2.750	4	C	●
ECI-4 437-625W0VF2.75	.437	.6250	.6250	0	.437	2.750	4	W	●
ECI-4 437-625W015VF2.7	.437	.6250	.6250	.0150	.437	2.750	4	W	●
ECI-4 437-625W03VF2.7	.437	.6250	.6250	.0300	.437	2.750	4	W	●
ECI-4 437-625W06VF2.75	.437	.6250	.6250	.0600	.437	2.750	4	W	●
ECI-4 437-1.0C0VF2.75	.437	1.0000	1.0000	0	.437	2.750	4	C	●
ECI-4 437-1.0C015VF2.7	.437	1.0000	1.0000	.0150	.437	2.750	4	C	●
ECI-4 437-1.0C03VF2.7	.437	1.0000	1.0000	.0300	.437	2.750	4	C	●
ECI-4 437-1.0C06VF2.75	.437	1.0000	1.0000	.0600	.437	2.750	4	C	●
ECI-4 437-1.0W0VF2.75	.437	1.0000	1.0000	0	.437	2.750	4	W	●
ECI-4 437-1.0W015VF2.7	.437	1.0000	1.0000	.0150	.437	2.750	4	W	●
ECI-4 437-1.0W03VF2.7	.437	1.0000	1.0000	.0300	.437	2.750	4	W	●
ECI-4 437-1.0W06VF2.75	.437	1.0000	1.0000	.0600	.437	2.750	4	W	●
ECI-4 437-1.5C0VF4	.437	1.5000	1.5000	0	.437	4.000	4	C	●
ECI-4 437-1.5C015VF4	.437	1.5000	1.5000	.0150	.437	4.000	4	C	●
ECI-4 437-1.5C03VF4	.437	1.5000	1.5000	.0300	.437	4.000	4	C	●
ECI-4 437-1.5C06VF4	.437	1.5000	1.5000	.0600	.437	4.000	4	C	●
ECI-4 437-1.5W0VF4	.437	1.5000	1.5000	0	.437	4.000	4	W	●
ECI-4 437-1.5W015VF4	.437	1.5000	1.5000	.0150	.437	4.000	4	W	●
ECI-4 437-1.5W03VF4	.437	1.5000	1.5000	.0300	.437	4.000	4	W	●
ECI-4 437-1.5W06VF4	.437	1.5000	1.5000	.0600	.437	4.000	4	W	●
ECI-4 437-3.0C0VF6	.437	3.0000	3.0000	0	.437	6.000	4	C	●
ECI-4 437-3.0C015VF6	.437	3.0000	3.0000	.0150	.437	6.000	4	C	●
ECI-4 437-3.0C03VF6	.437	3.0000	3.0000	.0300	.437	6.000	4	C	●
ECI-4 437-3.0C06VF6	.437	3.0000	3.0000	.0600	.437	6.000	4	C	●
ECI-4 437-3.0W0VF6	.437	3.0000	3.0000	0	.437	6.000	4	W	●
ECI-4 437-3.0W015VF6	.437	3.0000	3.0000	.0150	.437	6.000	4	W	●

<sup>(1)</sup> Number of flutes

• Weldon shank available upon request. Substitute a **W** in place of the **C** in the listed designations (example - ECI-4 375-1.0**C**03VF2.5 = cylindrical type; ECI-4 375-1.0**W**03VF2.5 = Weldon type)

**ECI-4-VF** Continued

4 Flute Endmill With and Without Relieved Necks, Assorted Radii and Variable Pitch for Chatter Dampening



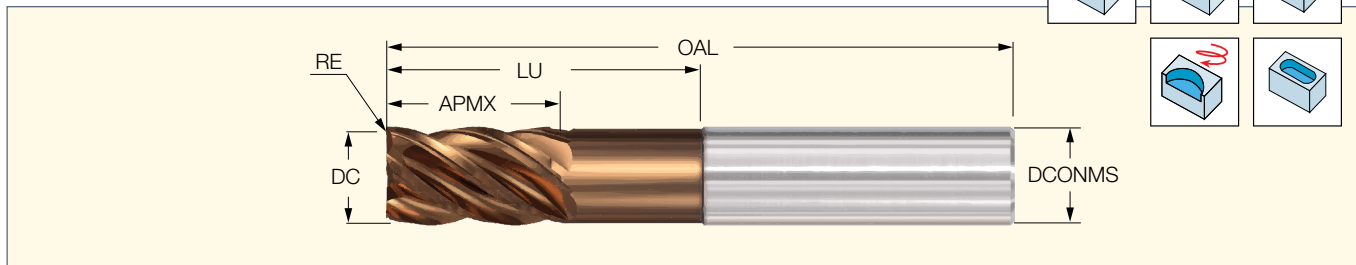
Designation	Dimensions							Shank	IC608
	DC	APMX	LU	RE	DCONMS	OAL	NOF <sup>(1)</sup>		
ECI-4 437-3.0W03VF6	.437	3.0000	3.0000	.0300	.437	6.000	4	W	●
ECI-4 437-3.0W06VF6	.437	3.0000	3.0000	.0600	.437	6.000	4	W	●
ECI-4 500-625C0VF2.5	.500	.6250	.6250	0	.500	2.500	4	C	●
ECI-4 500-625C010VF2.5	.500	.6250	.6250	.0100	.500	2.500	4	C	●
ECI-4 500-625C015VF2.5	.500	.6250	.6250	.0150	.500	2.500	4	C	●
ECI-4 500-625C03VF2.5	.500	.6250	.6250	.0300	.500	2.500	4	C	●
ECI-4 500-625C06VF2.5	.500	.6250	.6250	.0600	.500	2.500	4	C	●
ECI-4 500-625C09VF2.5	.500	.6250	.6250	.0900	.500	2.500	4	C	●
ECI-4 500-625C125VF2.5	.500	.6250	.6250	.1250	.500	2.500	4	C	●
ECI-4 500-625W0VF2.5	.500	.6250	.6250	0	.500	2.500	4	W	●
ECI-4 500-625W010VF2.5	.500	.6250	.6250	.0100	.500	2.500	4	W	●
ECI-4 500-625W015VF2.5	.500	.6250	.6250	.0150	.500	2.500	4	W	●
ECI-4 500-625W03VF2.5	.500	.6250	.6250	.0300	.500	2.500	4	W	●
ECI-4 500-625W06VF2.5	.500	.6250	.6250	.0600	.500	2.500	4	W	●
ECI-4 500-625W09VF2.5	.500	.6250	.6250	.0900	.500	2.500	4	W	●
ECI-4 500-625W125VF2.5	.500	.6250	.6250	.1250	.500	2.500	4	W	●
ECI-4 500-875/1.37C0VF3	.500	.8750	1.3750	0	.500	3.000	4	C	●
ECI-4 500-875/1.37C015VF3	.500	.8750	1.3750	.0150	.500	3.000	4	C	●
ECI-4 500-875/1.37C03VF3	.500	.8750	1.3750	.0300	.500	3.000	4	C	●
ECI-4 500-875/1.37C06VF3	.500	.8750	1.3750	.0600	.500	3.000	4	C	●
ECI-4 500-875/1.37C09VF3	.500	.8750	1.3750	.0900	.500	3.000	4	C	●
ECI-4 500-875/1.37C125VF3	.500	.8750	1.3750	.1250	.500	3.000	4	C	●
ECI-4 500-875/1.37W0VF3	.500	.8750	1.3700	0	.500	3.000	4	W	●
ECI-4 500-875/1.37W015VF3	.500	.8750	1.3700	.0150	.500	3.000	4	W	●
ECI-4 500-875/1.37W03VF3	.500	.8750	1.3700	.0300	.500	3.000	4	W	●
ECI-4 500-875/1.37W06VF3	.500	.8750	1.3700	.0600	.500	3.000	4	W	●
ECI-4 500-875/1.37W09VF3	.500	.8750	1.3700	.0900	.500	3.000	4	W	●
ECI-4 500-875/1.37W125VF3	.500	.8750	1.3700	.1250	.500	3.000	4	W	●
ECI-4 500-875/2.12C0VF4	.500	.8750	2.1250	0	.500	4.000	4	C	●
ECI-4 500-875/2.12C015VF4	.500	.8750	2.1250	.0150	.500	4.000	4	C	●
ECI-4 500-875/2.12C03VF4	.500	.8750	2.1250	.0300	.500	4.000	4	C	●
ECI-4 500-875/2.12C06VF4	.500	.8750	2.1250	.0600	.500	4.000	4	C	●
ECI-4 500-875/2.12C09VF4	.500	.8750	2.1250	.0900	.500	4.000	4	C	●
ECI-4 500-875/2.12C125VF4	.500	.8750	2.1250	.1250	.500	4.000	4	C	●
ECI-4 500-875/2.12W0VF4	.500	.8750	2.1250	0	.500	4.000	4	W	●
ECI-4 500-875/2.12W015VF4	.500	.8750	2.1250	.0150	.500	2.500	4	W	●
ECI-4 500-875/2.12W03VF4	.500	.8750	2.1250	.0300	.500	4.000	4	W	●
ECI-4 500-875/2.12W06VF4	.500	.8750	2.1250	.0600	.500	4.000	4	W	●
ECI-4 500-875/2.12W09VF4	.500	.8750	2.1250	.0900	.500	4.000	4	W	●
ECI-4 500-875/2.12W125VF4	.500	.8750	2.1250	.1250	.500	4.000	4	W	●
ECI-4 500-875/3.12W0VF4	.500	.8750	3.1200	0	.500	4.000	4	W	●
ECI-4 500-875/3.12W015VF4	.500	.8750	3.1200	.0150	.500	4.000	4	W	●
ECI-4 500-875/3.12W03VF4	.500	.8750	3.1200	.0300	.500	4.000	4	W	●
ECI-4 500-875/3.12W06VF4	.500	.8750	3.1200	.0600	.500	4.000	4	W	●
ECI-4 500-875/3.12W09VF4	.500	.8750	3.1200	.0900	.500	4.000	4	W	●
ECI-4 500-875/3.12W125VF4	.500	.8750	3.1200	.1250	.500	4.000	4	W	●
ECI-4 500-875/4.12C0VF6	.500	.8750	4.1250	0	.500	6.000	4	C	●
ECI-4 500-875/4.12C015VF6	.500	.8750	4.1250	.0150	.500	6.000	4	C	●
ECI-4 500-875/4.12C03VF6	.500	.8750	4.1250	.0300	.500	6.000	4	C	●
ECI-4 500-875/4.12C06VF6	.500	.8750	4.1250	.0600	.500	6.000	4	C	●
ECI-4 500-875/4.12C09VF6	.500	.8750	4.1250	.0900	.500	6.000	4	C	●

<sup>(1)</sup> Number of flutes

● Weldon shank available upon request. Substitute a **W** in place of the **C** in the listed designations (example - ECI-4 375-1.0**C**03VF2.5 = cylindrical type; ECI-4 375-1.0**W**03VF2.5 = Weldon type)

**ECI-4-VF** Continued

4 Flute Endmill With and Without Relieved Necks, Assorted Radii and Variable Pitch for Chatter Dampening



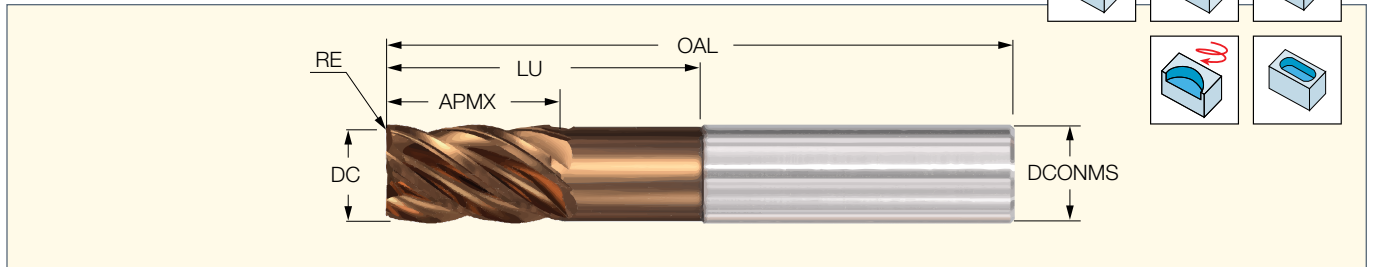
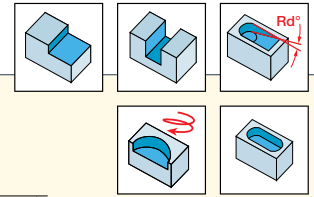
Designation	Dimensions							Shank	IC608
	DC	APMX	LU	RE	DCONMS	OAL	NOF <sup>(1)</sup>		
ECI-4 500-875/4.12C125VF6	.500	.8750	4.1250	.1250	.500	6.000	4	C	●
ECI-4 500-875/4.12W0VF6	.500	.8750	4.1200	0	.500	6.000	4	W	●
ECI-4 500-875/4.12W015VF6	.500	.8750	4.1200	.0150	.500	6.000	4	W	●
ECI-4 500-875/4.12W03VF6	.500	.8750	4.1200	.0300	.500	6.000	4	W	●
ECI-4 500-875/4.12W06VF6	.500	.8750	4.1200	.0600	.500	6.000	4	W	●
ECI-4 500-875/4.12W09VF6	.500	.8750	4.1200	.0900	.500	6.000	4	W	●
ECI-4 500-875/4.12W125VF6	.500	.8750	4.1200	.1250	.500	6.000	4	W	●
ECI-4 500-1.0C0VF3	.500	1.0000	1.0000	0	.500	3.000	4	C	●
ECI-4 500-1.0C010VF3	.500	1.0000	1.0000	.0100	.500	3.000	4	C	●
ECI-4 500-1.0C015VF3	.500	1.0000	1.0000	.0150	.500	3.000	4	C	●
ECI-4 500-1.0C03VF3	.500	1.0000	1.0000	.0300	.500	3.000	4	C	●
ECI-4 500-1.0C06VF3	.500	1.0000	1.0000	.0600	.500	3.000	4	C	●
ECI-4 500-1.0C09VF3	.500	1.0000	1.0000	.0900	.500	3.000	4	C	●
ECI-4 500-1.0C125VF3	.500	1.0000	1.0000	.1250	.500	3.000	4	C	●
ECI-4 500-1.0W0VF3	.500	1.0000	1.0000	0	.500	3.000	4	W	●
ECI-4 500-1.0W010VF3	.500	1.0000	1.0000	.0100	.500	3.000	4	W	●
ECI-4 500-1.0W015VF3	.500	1.0000	1.0000	.0150	.500	3.000	4	W	●
ECI-4 500-1.0W03VF3	.500	1.0000	1.0000	.0300	.500	3.000	4	W	●
ECI-4 500-1.0W06VF3	.500	1.0000	1.0000	.0600	.500	3.000	4	W	●
ECI-4 500-1.0W09VF3	.500	1.0000	1.0000	.0900	.500	3.000	4	W	●
ECI-4 500-1.0W125VF3	.500	1.0000	1.0000	.1250	.500	3.000	4	W	●
ECI-4 500-1.25C0VF3	.500	1.2500	1.2500	0	.500	3.000	4	C	●
ECI-4 500-1.25C010VF3	.500	1.2500	1.2500	.0100	.500	3.000	4	C	●
ECI-4 500-1.25C015VF3	.500	1.2500	1.2500	.0150	.500	3.000	4	C	●
ECI-4 500-1.25C03VF3	.500	1.2500	1.2500	.0300	.500	3.000	4	C	●
ECI-4 500-1.25C06VF3	.500	1.2500	1.2500	.0600	.500	3.000	4	C	●
ECI-4 500-1.25C09VF3	.500	1.2500	1.2500	.0900	.500	3.000	4	C	●
ECI-4 500-1.25C125VF3	.500	1.2500	1.2500	.1250	.500	3.000	4	C	●
ECI-4 500-1.25W0VF3	.500	1.2500	1.2500	0	.500	3.000	4	W	●
ECI-4 500-1.25W010VF3	.500	1.2500	1.2500	.0100	.500	3.000	4	W	●
ECI-4 500-1.25W015VF3	.500	1.2500	1.2500	.0150	.500	3.000	4	W	●
ECI-4 500-1.25W03VF3	.500	1.2500	1.2500	.0300	.500	3.000	4	W	●
ECI-4 500-1.25W06VF3	.500	1.2500	1.2500	.0600	.500	3.000	4	W	●
ECI-4 500-1.25W09VF3	.500	1.2500	1.2500	.0900	.500	3.000	4	W	●
ECI-4 500-1.25W125VF3	.500	1.2500	1.2500	.1250	.500	3.000	4	W	●
ECI-4 500-1.5C0VF4	.500	1.5000	1.5000	0	.500	4.000	4	C	●
ECI-4 500-1.5C010VF4	.500	1.5000	1.5000	.0100	.500	4.000	4	C	●
ECI-4 500-1.5C015VF4	.500	1.5000	1.5000	.0150	.500	4.000	4	C	●
ECI-4 500-1.5C03VF4	.500	1.5000	1.5000	.0300	.500	4.000	4	C	●
ECI-4 500-1.5C06VF4	.500	1.5000	1.5000	.0600	.500	4.000	4	C	●
ECI-4 500-1.5C09VF4	.500	1.5000	1.5000	.0900	.500	4.000	4	C	●
ECI-4 500-1.5C125VF4	.500	1.5000	1.5000	.1250	.500	4.000	4	C	●
ECI-4 500-1.5W0VF4	.500	1.5000	1.5000	0	.500	4.000	4	W	●
ECI-4 500-1.5W015VF4	.500	1.5000	1.5000	.0150	.500	4.000	4	W	●
ECI-4 500-1.5W03VF4	.500	1.5000	1.5000	.0300	.500	4.000	4	W	●
ECI-4 500-1.5W06VF4	.500	1.5000	1.5000	.0600	.500	4.000	4	W	●
ECI-4 500-1.5W09VF4	.500	1.5000	1.5000	.0900	.500	4.000	4	W	●
ECI-4 500-1.5W125VF4	.500	1.5000	1.5000	.1250	.500	4.000	4	W	●
ECI-4 500-2.0C0VF4	.500	2.0000	2.0000	0	.500	4.000	4	C	●
ECI-4 500-2.0C015VF4	.500	2.0000	2.0000	.0150	.500	4.000	4	C	●
ECI-4 500-2.0C03VF4	.500	2.0000	2.0000	.0300	.500	4.000	4	C	●

<sup>(1)</sup> Number of flutes

• Weldon shank available upon request. Substitute a **W** in place of the **C** in the listed designations (example - ECI-4 375-1.0**C**03VF2.5 = cylindrical type; ECI-4 375-1.0**W**03VF2.5 = Weldon type)

**ECI-4-VF Continued**

4 Flute Endmill With and Without Relieved Necks, Assorted Radii and Variable Pitch for Chatter Dampening



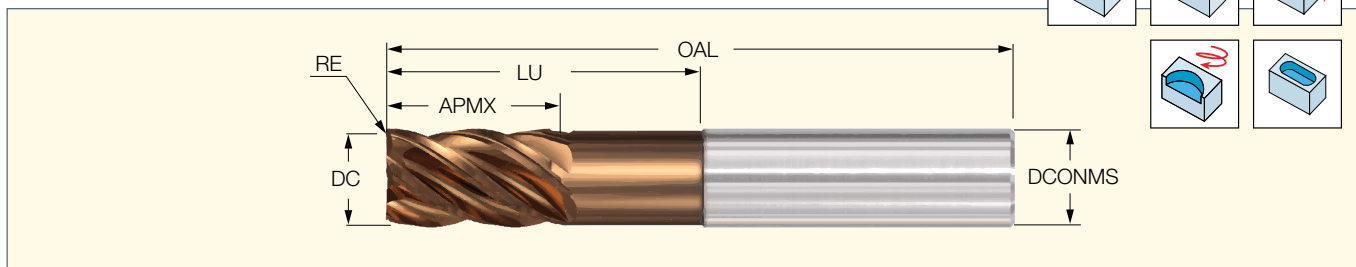
Designation	Dimensions							Shank	IC608
	DC	APMX	LU	RE	DCONMS	OAL	NOF <sup>(1)</sup>		
ECI-4 500-2.0C06VF4	.500	2.0000	2.0000	.0600	.500	4.000	4	C	●
ECI-4 500-2.0C09VF4	.500	2.0000	2.0000	.0900	.500	4.000	4	C	●
ECI-4 500-2.0C125VF4	.500	2.0000	2.0000	.1250	.500	4.000	4	C	●
ECI-4 500-2.0W0VF4	.500	2.0000	2.0000	0	.500	4.000	4	W	●
ECI-4 500-2.0W015VF4	.500	2.0000	2.0000	.0150	.500	4.000	4	W	●
ECI-4 500-2.0W03VF4	.500	2.0000	2.0000	.0300	.500	4.000	4	W	●
ECI-4 500-2.0W06VF4	.500	2.0000	2.0000	.0600	.500	4.000	4	W	●
ECI-4 500-2.0W09VF4	.500	2.0000	2.0000	.0900	.500	4.000	4	W	●
ECI-4 500-2.0W125VF4	.500	2.0000	2.0000	.1250	.500	4.000	4	W	●
ECI-4 500-2.5C0VF5	.500	2.5000	2.5000	0	.500	5.000	4	C	●
ECI-4 500-2.5C015VF5	.500	2.5000	2.5000	.0150	.500	5.000	4	C	●
ECI-4 500-2.5C03VF5	.500	2.5000	2.5000	.0300	.500	5.000	4	C	●
ECI-4 500-2.5C06VF5	.500	2.5000	2.5000	.0600	.500	5.000	4	C	●
ECI-4 500-2.5C09VF5	.500	2.5000	2.5000	.0900	.500	5.000	4	C	●
ECI-4 500-2.5C125VF5	.500	2.5000	2.5000	.1250	.500	5.000	4	C	●
ECI-4 500-2.5W0VF5	.500	2.5000	2.5000	0	.500	5.000	4	W	●
ECI-4 500-2.5W015VF5	.500	2.5000	2.5000	.0150	.500	5.000	4	W	●
ECI-4 500-2.5W03VF5	.500	2.5000	2.5000	.0300	.500	5.000	4	W	●
ECI-4 500-2.5W06VF5	.500	2.5000	2.5000	.0600	.500	5.000	4	W	●
ECI-4 500-2.5W09VF5	.500	2.5000	2.5000	.0900	.500	5.000	4	W	●
ECI-4 500-2.5W125VF5	.500	2.5000	2.5000	.1250	.500	5.000	4	W	●
ECI-4 500-3.0C0VF6	.500	3.0000	3.0000	0	.500	6.000	4	C	●
ECI-4 500-3.0C015VF6	.500	3.0000	3.0000	.0150	.500	6.000	4	C	●
ECI-4 500-3.0C03VF6	.500	3.0000	3.0000	.0300	.500	6.000	4	C	●
ECI-4 500-3.0C06VF6	.500	3.0000	3.0000	.0600	.500	6.000	4	C	●
ECI-4 500-3.0C09VF6	.500	3.0000	3.0000	.0900	.500	6.000	4	C	●
ECI-4 500-3.0C125VF6	.500	3.0000	3.0000	.1250	.500	6.000	4	C	●
ECI-4 500-3.0W0VF6	.500	3.0000	3.0000	0	.500	6.000	4	W	●
ECI-4 500-3.0W015VF6	.500	3.0000	3.0000	.0150	.500	6.000	4	W	●
ECI-4 500-3.0W03VF6	.500	3.0000	3.0000	.0300	.500	6.000	4	W	●
ECI-4 500-3.0W06VF6	.500	3.0000	3.0000	.0600	.500	6.000	4	W	●
ECI-4 500-3.0W09VF6	.500	3.0000	3.0000	.0900	.500	6.000	4	W	●
ECI-4 500-3.0W125VF6	.500	3.0000	3.0000	.1250	.500	6.000	4	W	●
ECI-4 625-750C0VF3	.625	.7500	.7500	0	.625	3.000	4	C	●
ECI-4 625-750C010VF3	.625	.7500	.7500	.0100	.625	3.000	4	C	●
ECI-4 625-750C015VF3	.625	.7500	.7500	.0150	.625	3.000	4	C	●
ECI-4 625-750C03VF3	.625	.7500	.7500	.0300	.625	3.000	4	C	●
ECI-4 625-750C06VF3	.625	.7500	.7500	.0600	.625	3.000	4	C	●
ECI-4 625-750C09VF3	.625	.7500	.7500	.0900	.625	3.000	4	C	●
ECI-4 625-750C125VF3	.625	.7500	.7500	.1250	.625	3.000	4	C	●
ECI-4 625-750W0VF3	.625	.7500	.7500	0	.625	3.000	4	W	●
ECI-4 625-750W015VF3	.625	.7500	.7500	.0150	.625	3.000	4	W	●
ECI-4 625-750W03VF3	.625	.7500	.7500	.0300	.625	3.000	4	W	●
ECI-4 625-750W06VF3	.625	.7500	.7500	.0600	.625	3.000	4	W	●
ECI-4 625-750W09VF3	.625	.7500	.7500	.0900	.625	3.000	4	W	●
ECI-4 625-750W125VF3	.625	.7500	.7500	.1250	.625	3.000	4	W	●
ECI-4 625-1.0/2.0C0VF4	.625	1.0000	2.0000	0	.625	4.000	4	C	●
ECI-4 625-1.0/2.0C015VF4	.625	1.0000	2.0000	.0150	.625	4.000	4	C	●
ECI-4 625-1.0/2.0C03VF4	.625	1.0000	2.0000	.0300	.625	4.000	4	C	●
ECI-4 625-1.0/2.0C06VF4	.625	1.0000	2.0000	.0600	.625	4.000	4	C	●
ECI-4 625-1.0/2.0C09VF4	.625	1.0000	2.0000	.0900	.625	4.000	4	C	●

<sup>(1)</sup> Number of flutes

● Weldon shank available upon request. Substitute a **W** in place of the **C** in the listed designations (example - ECI-4 375-1.0C03VF2.5 = cylindrical type; ECI-4 375-1.0W03VF2.5 = Weldon type)

**ECI-4-VF** Continued

4 Flute Endmill With and Without Relieved Necks, Assorted Radii and Variable Pitch for Chatter Dampening



Designation	Dimensions							Shank	IC608
	DC	APMX	LU	RE	DCONMS	OAL	NOF <sup>(1)</sup>		
ECI-4 625-1.0/2.0C125VF4	.625	1.0000	2.0000	.1250	.625	4.000	4	C	●
ECI-4 625-1.0/2.0W0VF4	.625	1.0000	2.0000	0	.625	4.000	4	W	●
ECI-4 625-1.0/2.0W015VF4	.625	1.0000	2.0000	.0150	.625	4.000	4	W	●
ECI-4 625-1.0/2.0W03VF4	.625	1.0000	2.0000	.0300	.625	4.000	4	W	●
ECI-4 625-1.0/2.0W06VF4	.625	1.0000	2.0000	.0600	.625	4.000	4	W	●
ECI-4 625-1.0/2.0W09VF4	.625	1.0000	2.0000	.0900	.625	4.000	4	W	●
ECI-4 625-1.0/2.0W125VF4	.625	1.0000	2.0000	.1250	.625	4.000	4	W	●
ECI-4 625-1.0/3.0C0VF5	.625	1.0000	3.0000	0	.625	5.000	4	C	●
ECI-4 625-1.0/3.0C015VF5	.625	1.0000	3.0000	.0150	.625	5.000	4	C	●
ECI-4 625-1.0/3.0C03VF5	.625	1.0000	3.0000	.0300	.625	5.000	4	C	●
ECI-4 625-1.0/3.0C06VF5	.625	1.0000	3.0000	.0600	.625	5.000	4	C	●
ECI-4 625-1.0/3.0C09VF5	.625	1.0000	3.0000	.0900	.625	5.000	4	C	●
ECI-4 625-1.0/3.0C125VF5	.625	1.0000	3.0000	.1250	.625	5.000	4	C	●
ECI-4 625-1.0/3.0W0VF5	.625	1.0000	3.0000	0	.625	5.000	4	W	●
ECI-4 625-1.0/3.0W015VF5	.625	1.0000	3.0000	.0150	.625	5.000	4	W	●
ECI-4 625-1.0/3.0W03VF5	.625	1.0000	3.0000	.0300	.625	5.000	4	W	●
ECI-4 625-1.0/3.0W06VF5	.625	1.0000	3.0000	.0600	.625	5.000	4	W	●
ECI-4 625-1.0/3.0W09VF5	.625	1.0000	3.0000	.0900	.625	5.000	4	W	●
ECI-4 625-1.0/3.0W125VF5	.625	1.0000	3.0000	.1250	.625	5.000	4	W	●
ECI-4 625-1.0/4.0C0VF6	.625	1.0000	4.0000	0	.625	6.000	4	C	●
ECI-4 625-1.0/4.0C015VF6	.625	1.0000	4.0000	.0150	.625	6.000	4	C	●
ECI-4 625-1.0/4.0C03VF6	.625	1.0000	4.0000	.0300	.625	6.000	4	C	●
ECI-4 625-1.0/4.0C06VF6	.625	1.0000	4.0000	.0600	.625	6.000	4	C	●
ECI-4 625-1.0/4.0C09VF6	.625	1.0000	4.0000	.0900	.625	6.000	4	C	●
ECI-4 625-1.0/4.0C125VF6	.625	1.0000	4.0000	.1250	.625	6.000	4	C	●
ECI-4 625-1.0/4.0W0VF6	.625	1.0000	4.0000	0	.625	6.000	4	W	●
ECI-4 625-1.0/4.0W015VF6	.625	1.0000	4.0000	.0150	.625	6.000	4	W	●
ECI-4 625-1.0/4.0W03VF6	.625	1.0000	4.0000	.0300	.625	6.000	4	W	●
ECI-4 625-1.0/4.0W06VF6	.625	1.0000	4.0000	.0600	.625	6.000	4	W	●
ECI-4 625-1.0/4.0W09VF6	.625	1.0000	4.0000	.0900	.625	6.000	4	W	●
ECI-4 625-1.0/4.0W125VF6	.625	1.0000	4.0000	.1250	.625	6.000	4	W	●
ECI-4 625-1.2C010VF3.5	.625	1.2500	1.2500	.0100	.625	3.500	4	C	●
ECI-4 625-1.2C015VF3.5	.625	1.2500	1.2500	.0150	.625	3.500	4	C	●
ECI-4 625-1.2W010VF3.5	.625	1.2500	1.2500	.0100	.625	3.500	4	W	●
ECI-4 625-1.2W015VF3.5	.625	1.2500	1.2500	.0150	.625	3.500	4	W	●
ECI-4 625-1.25C0VF3.5	.625	1.2500	1.2500	0	.625	3.500	4	C	●
ECI-4 625-1.25C03VF3.5	.625	1.2500	1.2500	.0300	.625	3.500	4	C	●
ECI-4 625-1.25C06VF3.5	.625	1.2500	1.2500	.0600	.625	3.500	4	C	●
ECI-4 625-1.25C09VF3.5	.625	1.2500	1.2500	.0900	.625	3.500	4	C	●
ECI-4 625-1.25C125VF3.5	.625	1.2500	1.2500	.1250	.625	3.500	4	C	●
ECI-4 625-1.25W0VF3.5	.625	1.2500	1.2500	0	.625	3.500	4	W	●
ECI-4 625-1.25W03VF3.5	.625	1.2500	1.2500	.0300	.625	3.500	4	W	●
ECI-4 625-1.25W06VF3.5	.625	1.2500	1.2500	.0600	.625	3.500	4	W	●
ECI-4 625-1.25W09VF3.5	.625	1.2500	1.2500	.0900	.625	3.500	4	W	●
ECI-4 625-1.25W125VF3.5	.625	1.2500	1.2500	.1250	.625	3.500	4	W	●
ECI-4 625-1.75C0VF4	.625	1.7500	1.7500	0	.625	4.000	4	C	●
ECI-4 625-1.75C010VF4	.625	1.7500	1.7500	.0100	.625	4.000	4	C	●
ECI-4 625-1.75C015VF4	.625	1.7500	1.7500	.0150	.625	4.000	4	C	●
ECI-4 625-1.75C03VF4	.625	1.7500	1.7500	.0300	.625	4.000	4	C	●
ECI-4 625-1.75C06VF4	.625	1.7500	1.7500	.0600	.625	4.000	4	C	●
ECI-4 625-1.75C09VF4	.625	1.7500	1.7500	.0900	.625	4.000	4	C	●

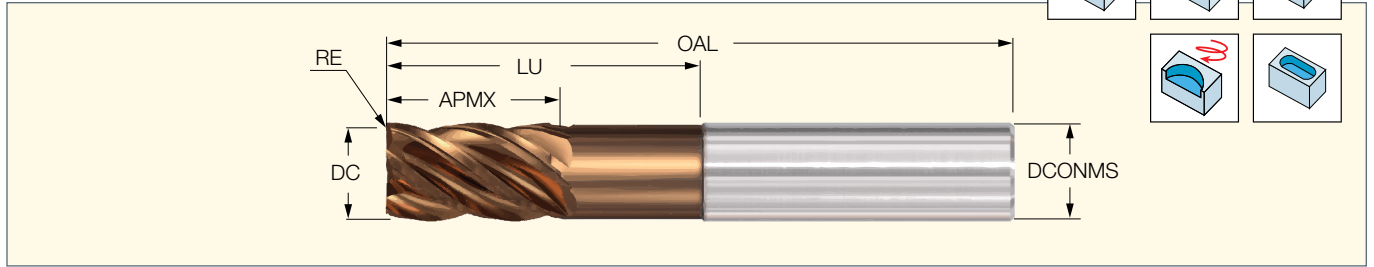
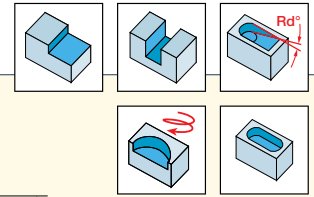
<sup>(1)</sup> Number of flutes

• Weldon shank available upon request. Substitute a **W** in place of the **C** in the listed designations (example - ECI-4 375-1.0C03VF2.5 = cylindrical type; ECI-4 375-1.0W03VF2.5 = Weldon type)



**ECI-4-VF** Continued

4 Flute Endmill With and Without Relieved Necks, Assorted Radii and Variable Pitch for Chatter Dampening



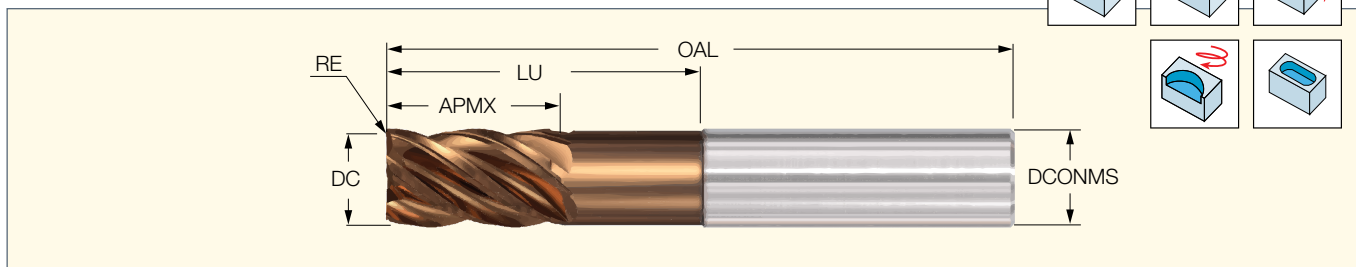
Designation	Dimensions							Shank	IC608
	DC	APMX	LU	RE	DCONMS	OAL	NOF <sup>(1)</sup>		
ECI-4 625-1.75C125VF4	.625	1.7500	1.7500	.1250	.625	4.000	4	C	●
ECI-4 625-1.75W0VF4	.625	1.7500	1.7500	0	.625	4.000	4	W	●
ECI-4 625-1.75W015VF4	.625	1.7500	1.7500	.0150	.625	4.000	4	W	●
ECI-4 625-1.75W03VF4	.625	1.7500	1.7500	.0300	.625	4.000	4	W	●
ECI-4 625-1.75W06VF4	.625	1.7500	1.7500	.0600	.625	4.000	4	W	●
ECI-4 625-1.75W09VF4	.625	1.7500	1.7500	.0900	.625	4.000	4	W	●
ECI-4 625-1.75W125VF4	.625	1.7500	1.7500	.1250	.625	4.000	4	W	●
ECI-4 625-1.0/2.0C010VF4	.625	2.0000	1.0000	.0100	.625	4.000	4	C	●
ECI-4 625-2.25C0VF5	.625	2.2500	2.2500	0	.625	5.000	4	C	●
ECI-4 625-2.25C015VF5	.625	2.2500	2.2500	.0150	.625	5.000	4	C	●
ECI-4 625-2.25C03VF5	.625	2.2500	2.2500	.0300	.625	5.000	4	C	●
ECI-4 625-2.25C06VF5	.625	2.2500	2.2500	.0600	.625	5.000	4	C	●
ECI-4 625-2.25C09VF5	.625	2.2500	2.2500	.0900	.625	5.000	4	C	●
ECI-4 625-2.25C125VF5	.625	2.2500	2.2500	.1250	.625	5.000	4	C	●
ECI-4 625-2.25W0VF5	.625	2.2500	2.2500	0	.625	5.000	4	W	●
ECI-4 625-2.25W015VF5	.625	2.2500	2.2500	.0150	.625	5.000	4	W	●
ECI-4 625-2.25W03VF5	.625	2.2500	2.2500	.0300	.625	5.000	4	W	●
ECI-4 625-2.25W06VF5	.625	2.2500	2.2500	.0600	.625	5.000	4	W	●
ECI-4 625-2.25W09VF5	.625	2.2500	2.2500	.0900	.625	5.000	4	W	●
ECI-4 625-2.25W125VF5	.625	2.2500	2.2500	.1250	.625	5.000	4	W	●
ECI-4 625-3.0C0VF6	.625	3.0000	3.0000	0	.625	6.000	4	C	●
ECI-4 625-3.0C010VF6	.625	3.0000	3.0000	.0100	.625	6.000	4	C	●
ECI-4 625-3.0C015VF6	.625	3.0000	3.0000	.0150	.625	6.000	4	C	●
ECI-4 625-3.0C03VF6	.625	3.0000	3.0000	.0300	.625	6.000	4	C	●
ECI-4 625-3.0C06VF6	.625	3.0000	3.0000	.0600	.625	6.000	4	C	●
ECI-4 625-3.0C09VF6	.625	3.0000	3.0000	.0900	.625	6.000	4	C	●
ECI-4 625-3.0C125VF6	.625	3.0000	3.0000	.1250	.625	6.000	4	C	●
ECI-4 625-3.0W0VF6	.625	3.0000	3.0000	0	.625	6.000	4	W	●
ECI-4 625-3.0W015VF6	.625	3.0000	3.0000	.0150	.625	6.000	4	W	●
ECI-4 625-3.0W03VF6	.625	3.0000	3.0000	.0300	.625	6.000	4	W	●
ECI-4 625-3.0W06VF6	.625	3.0000	3.0000	.0600	.625	6.000	4	W	●
ECI-4 625-3.0W09VF6	.625	3.0000	3.0000	.0900	.625	6.000	4	W	●
ECI-4 625-3.0W125VF6	.625	3.0000	3.0000	.1250	.625	6.000	4	W	●
ECI-4 750-875C0VF3	.750	.8750	.8750	0	.750	3.000	4	C	●
ECI-4 750-875C015VF3	.750	.8750	.8750	.0150	.750	3.000	4	C	●
ECI-4 750-875C03VF3	.750	.8750	.8750	.0300	.750	3.000	4	C	●
ECI-4 750-875C06VF3	.750	.8750	.8750	.0600	.750	3.000	4	C	●
ECI-4 750-875C09VF3	.750	.8750	.8750	.0900	.750	3.000	4	C	●
ECI-4 750-875C125VF3	.750	.8750	.8750	.1250	.750	3.000	4	C	●
ECI-4 750-875W0VF3	.750	.8750	.8750	0	.750	3.000	4	W	●
ECI-4 750-875W015VF3	.750	.8750	.8750	.0150	.750	3.000	4	W	●
ECI-4 750-875W03VF3	.750	.8750	.8750	.0300	.750	3.000	4	W	●
ECI-4 750-875W06VF3	.750	.8750	.8750	.0600	.750	3.000	4	W	●
ECI-4 750-875W09VF3	.750	.8750	.8750	.0900	.750	3.000	4	W	●
ECI-4 750-875W125VF3	.750	.8750	.8750	.1250	.750	3.000	4	W	●
ECI-4 750-1.2/2.0C015VF4	.750	1.2500	2.0000	.0150	.750	4.000	4	C	●
ECI-4 750-1.2/2.0W015VF4	.750	1.2500	2.0000	.0150	.750	4.000	4	W	●
ECI-4 750-1.2/3.0C015VF5	.750	1.2500	3.0000	.0150	.750	5.000	4	C	●
ECI-4 750-1.2/3.0W015VF5	.750	1.2500	3.0000	.0150	.750	5.000	4	W	●
ECI-4 750-1.2/4.0C015VF6	.750	1.2500	4.0000	.0150	.750	6.000	4	C	●
ECI-4 750-1.2/4.0W015VF6	.750	1.2500	4.0000	.0150	.750	6.000	4	W	●

<sup>(1)</sup> Number of flutes

● Weldon shank available upon request. Substitute a **W** in place of the **C** in the listed designations (example - ECI-4 375-1.0C03VF2.5 = cylindrical type; ECI-4 375-1.0W03VF2.5 = Weldon type)

**ECI-4-VF** Continued

4 Flute Endmill With and Without Relieved Necks, Assorted Radii and Variable Pitch for Chatter Dampening



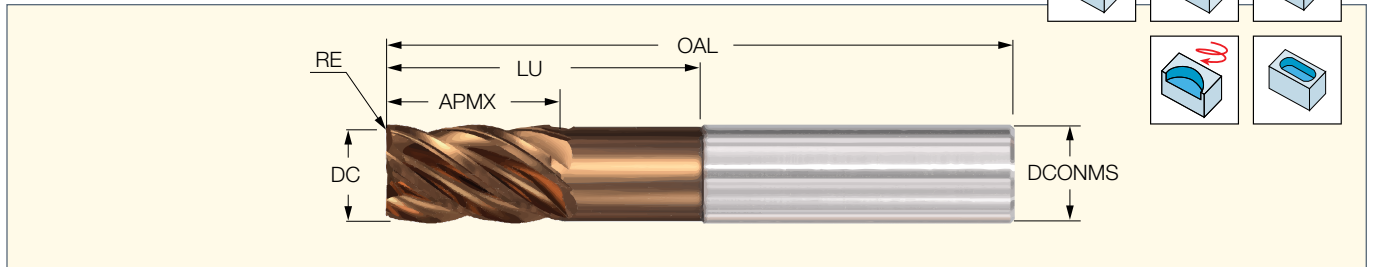
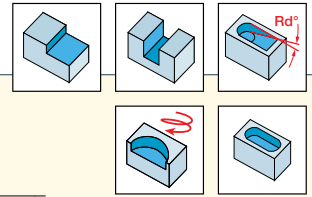
Designation	Dimensions							Shank	IC608
	DC	APMX	LU	RE	DCONMS	OAL	NOF <sup>(1)</sup>		
ECI-4 750-1.25/2.0C0VF4	.750	1.2500	2.0000	0	.750	4.000	4	C	●
ECI-4 750-1.25/2.0C03VF4	.750	1.2500	2.0000	.0300	.750	4.000	4	C	●
ECI-4 750-1.25/2.0C06VF4	.750	1.2500	2.0000	.0600	.750	4.000	4	C	●
ECI-4 750-1.25/2.0C09VF4	.750	1.2500	2.0000	.0900	.750	4.000	4	C	●
ECI-4 750-1.25/2.0C125VF4	.750	1.2500	2.0000	.1250	.750	4.000	4	C	●
ECI-4 750-1.25/2.0W0VF4	.750	1.2500	2.0000	0	.750	4.000	4	W	●
ECI-4 750-1.25/2.0W03VF4	.750	1.2500	2.0000	.0300	.750	4.000	4	W	●
ECI-4 750-1.25/2.0W06VF4	.750	1.2500	2.0000	.0600	.750	4.000	4	W	●
ECI-4 750-1.25/2.0W09VF4	.750	1.2500	2.0000	.0900	.750	4.000	4	W	●
ECI-4 750-1.25/2.0W125VF4	.750	1.2500	2.0000	.1250	.750	4.000	4	W	●
ECI-4 750-1.25/3.0C0VF5	.750	1.2500	3.0000	0	.750	5.000	4	C	●
ECI-4 750-1.25/3.0C03VF5	.750	1.2500	3.0000	.0300	.750	5.000	4	C	●
ECI-4 750-1.25/3.0C06VF5	.750	1.2500	3.0000	.0600	.750	5.000	4	C	●
ECI-4 750-1.25/3.0C09VF5	.750	1.2500	3.0000	.0900	.750	5.000	4	C	●
ECI-4 750-1.25/3.0C125VF5	.750	1.2500	3.0000	.1250	.750	5.000	4	C	●
ECI-4 750-1.25/3.0W0VF5	.750	1.2500	3.0000	0	.750	5.000	4	W	●
ECI-4 750-1.25/3.0W03VF5	.750	1.2500	3.0000	.0300	.750	5.000	4	W	●
ECI-4 750-1.25/3.0W06VF5	.750	1.2500	3.0000	.0600	.750	5.000	4	W	●
ECI-4 750-1.25/3.0W09VF5	.750	1.2500	3.0000	.0900	.750	5.000	4	W	●
ECI-4 750-1.25/3.0W125VF5	.750	1.2500	3.0000	.1250	.750	5.000	4	W	●
ECI-4 750-1.25/4.0C0VF6	.750	1.2500	4.0000	0	.750	6.000	4	C	●
ECI-4 750-1.25/4.0C03VF6	.750	1.2500	4.0000	.0300	.750	6.000	4	C	●
ECI-4 750-1.25/4.0C06VF6	.750	1.2500	4.0000	.0600	.750	6.000	4	C	●
ECI-4 750-1.25/4.0C09VF6	.750	1.2500	4.0000	.0900	.750	6.000	4	C	●
ECI-4 750-1.25/4.0C125VF6	.750	1.2500	4.0000	.1250	.750	6.000	4	C	●
ECI-4 750-1.25/4.0W0VF6	.750	1.2500	4.0000	0	.750	6.000	4	W	●
ECI-4 750-1.25/4.0W03VF6	.750	1.2500	4.0000	.0300	.750	6.000	4	W	●
ECI-4 750-1.25/4.0W06VF6	.750	1.2500	4.0000	.0600	.750	6.000	4	W	●
ECI-4 750-1.25/4.0W09VF6	.750	1.2500	4.0000	.0900	.750	6.000	4	W	●
ECI-4 750-1.25/4.0W125VF6	.750	1.2500	4.0000	.1250	.750	6.000	4	W	●
ECI-4 750-1.5C0VF4	.750	1.5000	1.5000	0	.750	4.000	4	C	●
ECI-4 750-1.5C010VF4	.750	1.5000	1.5000	.0100	.750	4.000	4	C	●
ECI-4 750-1.5C015VF4	.750	1.5000	1.5000	.0150	.750	4.000	4	C	●
ECI-4 750-1.5C03VF4	.750	1.5000	1.5000	.0300	.750	4.000	4	C	●
ECI-4 750-1.5C06VF4	.750	1.5000	1.5000	.0600	.750	4.000	4	C	●
ECI-4 750-1.5C09VF4	.750	1.5000	1.5000	.0900	.750	4.000	4	C	●
ECI-4 750-1.5C125VF4	.750	1.5000	1.5000	.1250	.750	4.000	4	C	●
ECI-4 750-1.5W0VF4	.750	1.5000	1.5000	0	.750	4.000	4	W	●
ECI-4 750-1.5W010VF4	.750	1.5000	1.5000	.0100	.750	4.000	4	W	●
ECI-4 750-1.5W015VF4	.750	1.5000	1.5000	.0150	.750	4.000	4	W	●
ECI-4 750-1.5W03VF4	.750	1.5000	1.5000	.0300	.750	4.000	4	W	●
ECI-4 750-1.5W06VF4	.750	1.5000	1.5000	.0600	.750	4.000	4	W	●
ECI-4 750-1.5W09VF4	.750	1.5000	1.5000	.0900	.750	4.000	4	W	●
ECI-4 750-1.5W125VF4	.750	1.5000	1.5000	.1250	.750	4.000	4	W	●
ECI-4 750-1.62C0VF4	.750	1.6250	1.6250	0	.750	4.000	4	C	●
ECI-4 750-1.62C015VF4	.750	1.6250	1.6250	.0150	.750	4.000	4	C	●
ECI-4 750-1.62C03VF4	.750	1.6250	1.6250	.0300	.750	4.000	4	C	●
ECI-4 750-1.62C06VF4	.750	1.6250	1.6250	.0600	.750	4.000	4	C	●
ECI-4 750-1.62C09VF4	.750	1.6250	1.6250	.0900	.750	4.000	4	C	●
ECI-4 750-1.62C125VF4	.750	1.6250	1.6250	.1250	.750	4.000	4	C	●
ECI-4 750-1.62W0VF4	.750	1.6250	1.6250	0	.750	4.000	4	W	●

(1) Number of flutes

• Weldon shank available upon request. Substitute a **W** in place of the **C** in the listed designations (example - ECI-4 375-1.0**C**03VF2.5 = cylindrical type; ECI-4 375-1.0**W**03VF2.5 = Weldon type)

**ECI-4-VF Continued**

4 Flute Endmill With and Without Relieved Necks, Assorted Radii and Variable Pitch for Chatter Dampening



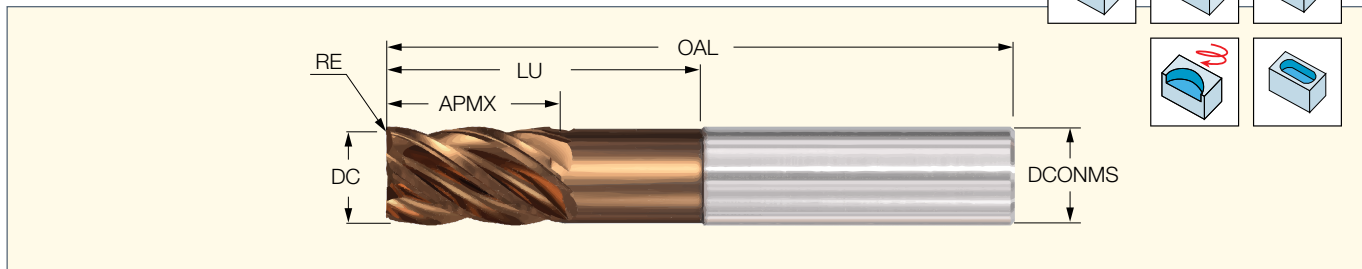
Designation	Dimensions							Shank	IC608
	DC	APMX	LU	RE	DCONMS	OAL	NOF <sup>(1)</sup>		
ECI-4 750-1.62W015VF4	.750	1.6250	1.6250	.0150	.750	4.000	4	W	●
ECI-4 750-1.62W03VF4	.750	1.6250	1.6250	.0300	.750	4.000	4	W	●
ECI-4 750-1.62W06VF4	.750	1.6250	1.6250	.0600	.750	4.000	4	W	●
ECI-4 750-1.62W09VF4	.750	1.6250	1.6250	.0900	.750	4.000	4	W	●
ECI-4 750-1.62W125VF4	.750	1.6250	1.6250	.1250	.750	4.000	4	W	●
ECI-4 750-2.25C0VF5	.750	2.2500	2.2500	0	.750	5.000	4	C	●
ECI-4 750-2.25C010VF5	.750	2.2500	2.2500	.0100	.750	5.000	4	C	●
ECI-4 750-2.25C015VF5	.750	2.2500	2.2500	.0150	.750	5.000	4	C	●
ECI-4 750-2.25C03VF5	.750	2.2500	2.2500	.0300	.750	5.000	4	C	●
ECI-4 750-2.25C06VF5	.750	2.2500	2.2500	.0600	.750	5.000	4	C	●
ECI-4 750-2.25C09VF5	.750	2.2500	2.2500	.0900	.750	5.000	4	C	●
ECI-4 750-2.25C125VF5	.750	2.2500	2.2500	.1250	.750	5.000	4	C	●
ECI-4 750-2.25W0VF5	.750	2.2500	2.2500	0	.750	5.000	4	W	●
ECI-4 750-2.25W010VF5	.750	2.2500	2.2500	.0100	.750	5.000	4	W	●
ECI-4 750-2.25W015VF5	.750	2.2500	2.2500	.0150	.750	5.000	4	W	●
ECI-4 750-2.25W03VF5	.750	2.2500	2.2500	.0300	.750	5.000	4	W	●
ECI-4 750-2.25W06VF5	.750	2.2500	2.2500	.0600	.750	5.000	4	W	●
ECI-4 750-2.25W09VF5	.750	2.2500	2.2500	.0900	.750	5.000	4	W	●
ECI-4 750-2.25W125VF5	.750	2.2500	2.2500	.1250	.750	5.000	4	W	●
ECI-4 750-3.0C0VF6	.750	3.0000	3.0000	0	.750	6.000	4	C	●
ECI-4 750-3.0C015VF6	.750	3.0000	3.0000	.0150	.750	6.000	4	C	●
ECI-4 750-3.0C03VF6	.750	3.0000	3.0000	.0300	.750	6.000	4	C	●
ECI-4 750-3.0C06VF6	.750	3.0000	3.0000	.0600	.750	6.000	4	C	●
ECI-4 750-3.0C09VF6	.750	3.0000	3.0000	.0900	.750	6.000	4	C	●
ECI-4 750-3.0C125VF6	.750	3.0000	3.0000	.1250	.750	6.000	4	C	●
ECI-4 750-3.0W0VF6	.750	3.0000	3.0000	0	.750	6.000	4	W	●
ECI-4 750-3.0W015VF6	.750	3.0000	3.0000	.0150	.750	6.000	4	W	●
ECI-4 750-3.0W03VF6	.750	3.0000	3.0000	.0300	.750	6.000	4	W	●
ECI-4 750-3.0W06VF6	.750	3.0000	3.0000	.0600	.750	6.000	4	W	●
ECI-4 750-3.0W09VF6	.750	3.0000	3.0000	.0900	.750	6.000	4	W	●
ECI-4 750-3.0W125VF6	.750	3.0000	3.0000	.1250	.750	6.000	4	W	●
ECI-4 750-4.0C0VF7	.750	4.0000	4.0000	0	.750	7.000	4	C	●
ECI-4 750-4.0C015VF7	.750	4.0000	4.0000	.0150	.750	7.000	4	C	●
ECI-4 750-4.0C03VF7	.750	4.0000	4.0000	.0300	.750	7.000	4	C	●
ECI-4 750-4.0C06VF7	.750	4.0000	4.0000	.0600	.750	7.000	4	C	●
ECI-4 750-4.0C09VF7	.750	4.0000	4.0000	.0900	.750	7.000	4	C	●
ECI-4 750-4.0C125VF7	.750	4.0000	4.0000	.1250	.750	7.000	4	C	●
ECI-4 750-4.0W0VF7	.750	4.0000	4.0000	0	.750	7.000	4	W	●
ECI-4 750-4.0W015VF7	.750	4.0000	4.0000	.0150	.750	7.000	4	W	●
ECI-4 750-4.0W03VF7	.750	4.0000	4.0000	.0300	.750	7.000	4	W	●
ECI-4 750-4.0W06VF7	.750	4.0000	4.0000	.0600	.750	7.000	4	W	●
ECI-4 750-4.0W09VF7	.750	4.0000	4.0000	.0900	.750	7.000	4	W	●
ECI-4 750-4.0W125VF7	.750	4.0000	4.0000	.1250	.750	7.000	4	W	●
ECI-4 1.0-1.4/5.0C09VF7	1.000	1.5000	5.0000	.0900	1.000	7.000	4	C	●
ECI-4 1.0-1.4/5.0W09VF7	1.000	1.5000	5.0000	.0900	1.000	7.000	4	W	●
ECI-4 1.0-1.5/3.0C0VF5	1.000	1.5000	3.0000	0	1.000	5.000	4	C	●
ECI-4 1.0-1.5/3.0C015VF5	1.000	1.5000	3.0000	.0150	1.000	5.000	4	C	●
ECI-4 1.0-1.5/3.0C03VF5	1.000	1.5000	3.0000	.0300	1.000	5.000	4	C	●
ECI-4 1.0-1.5/3.0C06VF5	1.000	1.5000	3.0000	.0600	1.000	5.000	4	C	●
ECI-4 1.0-1.5/3.0C09VF5	1.000	1.5000	3.0000	.0900	1.000	5.000	4	C	●
ECI-4 1.0-1.5/3.0C125VF5	1.000	1.5000	3.0000	.1250	1.000	5.000	4	C	●

<sup>(1)</sup> Number of flutes

● Weldon shank available upon request. Substitute a **W** in place of the **C** in the listed designations (example - ECI-4 375-1.0**C**03VF2.5 = cylindrical type; ECI-4 375-1.0**W**03VF2.5 = Weldon type)

**ECI-4-VF** Continued

4 Flute Endmill With and Without Relieved Necks, Assorted Radii and Variable Pitch for Chatter Dampening



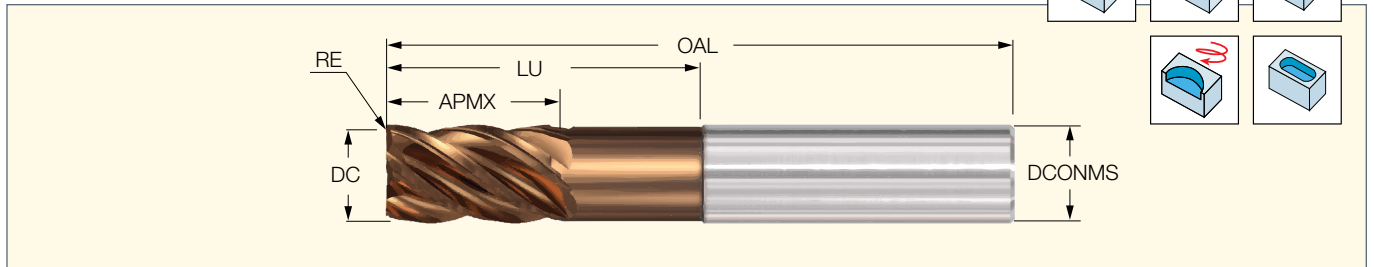
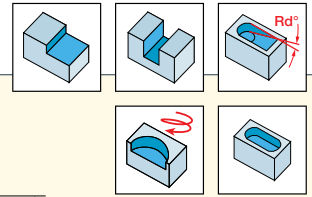
Designation	Dimensions							Shank	IC608
	DC	APMX	LU	RE	DCONMS	OAL	NOF <sup>(1)</sup>		
ECI-4 1.0-1.5/3.0W0VF5	1.000	1.5000	3.0000	0	1.000	5.000	4	W	●
ECI-4 1.0-1.5/3.0W015VF5	1.000	1.5000	3.0000	.0150	1.000	5.000	4	W	●
ECI-4 1.0-1.5/3.0W03VF5	1.000	1.5000	3.0000	.0300	1.000	5.000	4	W	●
ECI-4 1.0-1.5/3.0W06VF5	1.000	1.5000	3.0000	.0600	1.000	5.000	4	W	●
ECI-4 1.0-1.5/3.0W09VF5	1.000	1.5000	3.0000	.0900	1.000	5.000	4	W	●
ECI-4 1.0-1.5/3.0W125VF5	1.000	1.5000	3.0000	.1250	1.000	5.000	4	W	●
ECI-4 1.0-1.5/4.0C0VF6	1.000	1.5000	4.0000	0	1.000	6.000	4	C	●
ECI-4 1.0-1.5/4.0C015VF6	1.000	1.5000	4.0000	.0150	1.000	6.000	4	C	●
ECI-4 1.0-1.5/4.0C03VF6	1.000	1.5000	4.0000	.0300	1.000	6.000	4	C	●
ECI-4 1.0-1.5/4.0C06VF6	1.000	1.5000	4.0000	.0600	1.000	6.000	4	C	●
ECI-4 1.0-1.5/4.0C09VF6	1.000	1.5000	4.0000	.0900	1.000	6.000	4	C	●
ECI-4 1.0-1.5/4.0C125VF6	1.000	1.5000	4.0000	.1250	1.000	6.000	4	C	●
ECI-4 1.0-1.5/4.0W0VF6	1.000	1.5000	4.0000	0	1.000	6.000	4	W	●
ECI-4 1.0-1.5/4.0W015VF6	1.000	1.5000	4.0000	.0150	1.000	6.000	4	W	●
ECI-4 1.0-1.5/4.0W03VF6	1.000	1.5000	4.0000	.0300	1.000	6.000	4	W	●
ECI-4 1.0-1.5/4.0W06VF6	1.000	1.5000	4.0000	.0600	1.000	6.000	4	W	●
ECI-4 1.0-1.5/4.0W09VF6	1.000	1.5000	4.0000	.0900	1.000	6.000	4	W	●
ECI-4 1.0-1.5/4.0W125VF6	1.000	1.5000	4.0000	.1250	1.000	6.000	4	W	●
ECI-4 1.0-1.5/5.0C0VF7	1.000	1.5000	5.0000	0	1.000	7.000	4	C	●
ECI-4 1.0-1.5/5.0C015VF7	1.000	1.5000	5.0000	.0150	1.000	7.000	4	C	●
ECI-4 1.0-1.5/5.0C03VF7	1.000	1.5000	5.0000	.0300	1.000	7.000	4	C	●
ECI-4 1.0-1.5/5.0C06VF7	1.000	1.5000	5.0000	.0600	1.000	7.000	4	C	●
ECI-4 1.0-1.5/5.0C125VF7	1.000	1.5000	5.0000	.1250	1.000	7.000	4	C	●
ECI-4 1.0-1.5/5.0W0VF7	1.000	1.5000	5.0000	0	1.000	7.000	4	W	●
ECI-4 1.0-1.5/5.0W015VF7	1.000	1.5000	5.0000	.0150	1.000	7.000	4	W	●
ECI-4 1.0-1.5/5.0W03VF7	1.000	1.5000	5.0000	.0300	1.000	7.000	4	W	●
ECI-4 1.0-1.5/5.0W06VF7	1.000	1.5000	5.0000	.0600	1.000	7.000	4	W	●
ECI-4 1.0-1.5/5.0W125VF7	1.000	1.5000	5.0000	.1250	1.000	7.000	4	W	●
ECI-4 1.0-1.5C0VF4	1.000	1.5000	1.5000	0	1.000	4.000	4	C	●
ECI-4 1.0-1.5C015VF4	1.000	1.5000	1.5000	.0150	1.000	4.000	4	C	●
ECI-4 1.0-1.5C03VF4	1.000	1.5000	1.5000	.0300	1.000	4.000	4	C	●
ECI-4 1.0-1.5C06VF4	1.000	1.5000	1.5000	.0600	1.000	4.000	4	C	●
ECI-4 1.0-1.5C09VF4	1.000	1.5000	1.5000	.0900	1.000	4.000	4	C	●
ECI-4 1.0-1.5C125VF4	1.000	1.5000	1.5000	.1250	1.000	4.000	4	C	●
ECI-4 1.0-1.5W0VF4	1.000	1.5000	1.5000	0	1.000	4.000	4	W	●
ECI-4 1.0-1.5W015VF4	1.000	1.5000	1.5000	.0150	1.000	4.000	4	W	●
ECI-4 1.0-1.5W03VF4	1.000	1.5000	1.5000	.0300	1.000	4.000	4	W	●
ECI-4 1.0-1.5W06VF4	1.000	1.5000	1.5000	.0600	1.000	4.000	4	W	●
ECI-4 1.0-1.5W09VF4	1.000	1.5000	1.5000	.0900	1.000	4.000	4	W	●
ECI-4 1.0-1.5W125VF4	1.000	1.5000	1.5000	.1250	1.000	4.000	4	W	●
ECI-4 1.0-2.0C0VF4.5	1.000	2.0000	2.0000	0	1.000	4.500	4	C	●
ECI-4 1.0-2.0C010VF4.5	1.000	2.0000	2.0000	.0100	1.000	4.500	4	C	●
ECI-4 1.0-2.0C015VF4.5	1.000	2.0000	2.0000	.0150	1.000	4.500	4	C	●
ECI-4 1.0-2.0C03VF4.5	1.000	2.0000	2.0000	.0300	1.000	4.500	4	C	●
ECI-4 1.0-2.0C06VF4.5	1.000	2.0000	2.0000	.0600	1.000	4.500	4	C	●
ECI-4 1.0-2.0C09VF4.5	1.000	2.0000	2.0000	.0900	1.000	4.500	4	C	●
ECI-4 1.0-2.0C125VF4.5	1.000	2.0000	2.0000	.1250	1.000	4.500	4	C	●
ECI-4 1.0-2.0W0VF4.5	1.000	2.0000	2.0000	0	1.000	4.000	4	W	●
ECI-4 1.0-2.0W015VF4.5	1.000	2.0000	2.0000	.0150	1.000	4.000	4	W	●
ECI-4 1.0-2.0W03VF4.5	1.000	2.0000	2.0000	.0300	1.000	4.000	4	W	●
ECI-4 1.0-2.0W06VF4.5	1.000	2.0000	2.0000	.0600	1.000	4.000	4	W	●

<sup>(1)</sup> Number of flutes

• Weldon shank available upon request. Substitute a **W** in place of the **C** in the listed designations (example - ECI-4 375-1.0**C**03VF2.5 = cylindrical type; ECI-4 375-1.0**W**03VF2.5 = Weldon type)

**ECI-4-VF Continued**

4 Flute Endmill With and Without Relieved Necks, Assorted Radii and Variable Pitch for Chatter Dampening



Designation	Dimensions							Shank	IC608
	DC	APMX	LU	RE	DCONMS	OAL	NOF <sup>(1)</sup>		
ECI-4 1.0-2.0W09VF4.5	1.000	2.0000	2.0000	.0900	1.000	4.000	4	W	●
ECI-4 1.0-2.0W125VF4.5	1.000	2.0000	2.0000	.1250	1.000	4.000	4	W	●
ECI-4 1.0-2.25C0VF5	1.000	2.2500	2.2500	0	1.000	5.000	4	C	●
ECI-4 1.0-2.25C015VF5	1.000	2.2500	2.2500	.0150	1.000	5.000	4	C	●
ECI-4 1.0-2.25C03VF5	1.000	2.2500	2.2500	.0300	1.000	5.000	4	C	●
ECI-4 1.0-2.25C06VF5	1.000	2.2500	2.2500	.0600	1.000	5.000	4	C	●
ECI-4 1.0-2.25C09VF5	1.000	2.2500	2.2500	.0900	1.000	5.000	4	C	●
ECI-4 1.0-2.25C125VF5	1.000	2.2500	2.2500	.1250	1.000	5.000	4	C	●
ECI-4 1.0-2.25W0VF5	1.000	2.2500	2.2500	0	1.000	5.000	4	W	●
ECI-4 1.0-2.25W015VF5	1.000	2.2500	2.2500	.0150	1.000	5.000	4	W	●
ECI-4 1.0-2.25W03VF5	1.000	2.2500	2.2500	.0300	1.000	5.000	4	W	●
ECI-4 1.0-2.25W06VF5	1.000	2.2500	2.2500	.0600	1.000	5.000	4	W	●
ECI-4 1.0-2.25W09VF5	1.000	2.2500	2.2500	.0900	1.000	5.000	4	W	●
ECI-4 1.0-2.25W125VF5	1.000	2.2500	2.2500	.1250	1.000	5.000	4	W	●
ECI-4 1.0-3.0C0VF6	1.000	3.0000	3.0000	0	1.000	6.000	4	C	●
ECI-4 1.0-3.0C015VF6	1.000	3.0000	3.0000	.0150	1.000	6.000	4	C	●
ECI-4 1.0-3.0C03VF6	1.000	3.0000	3.0000	.0300	1.000	6.000	4	C	●
ECI-4 1.0-3.0C06VF6	1.000	3.0000	3.0000	.0600	1.000	6.000	4	C	●
ECI-4 1.0-3.0C09VF6	1.000	3.0000	3.0000	.0900	1.000	6.000	4	C	●
ECI-4 1.0-3.0C125VF6	1.000	3.0000	3.0000	.1250	1.000	6.000	4	C	●
ECI-4 1.0-3.0W0VF6	1.000	3.0000	3.0000	0	1.000	6.000	4	W	●
ECI-4 1.0-3.0W015VF6	1.000	3.0000	3.0000	.0150	1.000	6.000	4	W	●
ECI-4 1.0-3.0W03VF6	1.000	3.0000	3.0000	.0300	1.000	6.000	4	W	●
ECI-4 1.0-3.0W06VF6	1.000	3.0000	3.0000	.0600	1.000	6.000	4	W	●
ECI-4 1.0-3.0W09VF6	1.000	3.0000	3.0000	.0900	1.000	6.000	4	W	●
ECI-4 1.0-3.0W125VF6	1.000	3.0000	3.0000	.1250	1.000	6.000	4	W	●
ECI-4 1.0-4.0C0VF7	1.000	4.0000	4.0000	0	1.000	7.000	4	C	●
ECI-4 1.0-4.0C010VF7	1.000	4.0000	4.0000	.0100	1.000	7.000	4	C	●
ECI-4 1.0-4.0C015VF7	1.000	4.0000	4.0000	.0150	1.000	7.000	4	C	●
ECI-4 1.0-4.0C03VF7	1.000	4.0000	4.0000	.0300	1.000	7.000	4	C	●
ECI-4 1.0-4.0C06VF7	1.000	4.0000	4.0000	.0600	1.000	7.000	4	C	●
ECI-4 1.0-4.0C09VF7	1.000	4.0000	4.0000	.0900	1.000	7.000	4	C	●
ECI-4 1.0-4.0C125VF7	1.000	4.0000	4.0000	.1250	1.000	7.000	4	C	●
ECI-4 1.0-4.0W0VF7	1.000	4.0000	4.0000	0	1.000	7.000	4	W	●
ECI-4 1.0-4.0W015VF7	1.000	4.0000	4.0000	.0150	1.000	7.000	4	W	●
ECI-4 1.0-4.0W03VF7	1.000	4.0000	4.0000	.0300	1.000	7.000	4	W	●
ECI-4 1.0-4.0W06VF7	1.000	4.0000	4.0000	.0600	1.000	7.000	4	W	●
ECI-4 1.0-4.0W09VF7	1.000	4.0000	4.0000	.0900	1.000	7.000	4	W	●
ECI-4 1.0-4.0W125VF7	1.000	4.0000	4.0000	.1250	1.000	7.000	4	W	●

<sup>(1)</sup> Number of flutes

- Weldon shank available upon request. Substitute a **W** in place of the **C** in the listed designations (example - ECI-4 375-1.0C03VF2.5 = cylindrical type; ECI-4 375-1.0W03VF2.5 = Weldon type)

# Slotting

ISO	Material No.	Material	Condition	Cutting Speed Recommendations (V <sub>c</sub> ) SFM	Hardness HB	Cutting Diameter Feed (IPT)										Slotting Axial	
						1/8	3/16	1/4	5/16	3/8	7/16	1/2	5/8	3/4	1		a <sub>p</sub> max
P	1	Non-alloy steel and cast steel, free cutting steel	Annealed	740-800	125	.0003	.0004	.0006	.0007	.0009	.0010	.0012	.0015	.0018	.0024	1xD	
	2	<.25%C	Annealed	590-680	190	.0003	.0004	.0006	.0007	.0009	.0010	.0012	.0015	.0018	.0024	1xD	
	3		Quench and tempered	475-650	250	.0003	.0004	.0006	.0007	.0009	.0010	.0012	.0015	.0018	.0024	1xD	
	4	>=.55%C	Annealed	475-650	220	.0003	.0004	.0006	.0007	.0009	.0010	.0012	.0015	.0018	.0024	1xD	
	5		Quenched & tempered	420-530	300	.0003	.0004	.0006	.0007	.0009	.0010	.0012	.0015	.0018	.0024	1xD	
	6	Low alloy & cast steel (less than 5% of alloying elements)	Annealed	475-650	200	.0003	.0004	.0006	.0007	.0009	.0010	.0012	.0015	.0018	.0024	1xD	
	7		Quenched & tempered	355-530	275	.0003	.0004	.0006	.0007	.0009	.0010	.0012	.0015	.0018	.0024	1xD	
	8		Quenched & tempered	380-530	300	.0003	.0004	.0006	.0007	.0009	.0010	.0012	.0015	.0018	.0024	1xD	
	9		Quenched & tempered	415-530	350	.0003	.0004	.0006	.0007	.0009	.0010	.0012	.0015	.0018	.0024	1xD	
	10	High alloyed steel, cast steel and tool steel	Annealed	380-530	200	.0003	.0004	.0006	.0007	.0009	.0010	.0012	.0015	.0018	.0024	1xD	
	11		Quenched & tempered	200-360	325	.0003	.0004	.0006	.0007	.0009	.0010	.0012	.0015	.0018	.0024	1xD	
	12	Stainless steel and cast steel	Ferritic/martensitic	230-475	200	.0003	.0004	.0006	.0007	.0009	.0020	.0012	.0015	.0018	.0024	1xD	
	13		Martensitic	175-440	240	.0003	.0004	.0006	.0007	.0009	.0020	.0012	.0015	.0018	.0024	1xD	
M	14	Stainless steel and cast steel	Austenitic	175-360	180	.0003	.0004	.0006	.0007	.0009	.0020	.0012	.0015	.0018	.0024	1xD	
K	15	Grey cast iron (GG)	Pearlitic/ferritic	235-740	180	.0003	.0004	.0006	.0007	.0009	.0030	.0012	.0015	.0018	.0024	1xD	
	16		Pearlitic/martensitic	380-700	260	.0003	.0004	.0006	.0007	.0009	.0030	.0012	.0015	.0018	.0024	1xD	
	17	Nodular cast iron (GGG)	Ferritic	440-800	160	.0003	.0004	.0006	.0007	.0009	.0010	.0012	.0015	.0018	.0024	1xD	
	18		Pearlitic	440-800	250	.0003	.0004	.0006	.0007	.0009	.0010	.0012	.0015	.0018	.0024	1xD	
	19	Malleable cast iron	Ferritic	440-800	130	.0003	.0004	.0006	.0007	.0009	.0010	.0012	.0015	.0018	.0024	1xD	
20	Pearlitic		415-710	230	.0003	.0004	.0006	.0007	.0009	.0010	.0012	.0015	.0018	.0024	1xD		
S	31	High temp. alloys	Fe based	Annealed	60-120	200	.0003	.0004	.0006	.0007	.0009	.0010	.0012	.0015	.0018	.0024	1xD
	32			Cured	60-90	280	.0003	.0004	.0006	.0007	.0009	.0010	.0012	.0015	.0018	.0024	1xD
	33	Ni or Co based	Annealed	60-90	250	.0003	.0004	.0006	.0007	.0009	.0010	.0012	.0015	.0018	.0024	1xD	
	34		Cured	60-90	350	.0003	.0004	.0006	.0007	.0009	.0010	.0012	.0015	.0018	.0024	1xD	
	35		Cast	60-90	320	.0003	.0004	.0006	.0007	.0009	.0010	.0012	.0015	.0018	.0024	1xD	
	36	Titanium Ti alloys	Pure	90-235	310	.0003	.0004	.0006	.0007	.0009	.0020	.0012	.0015	.0018	.0024	1xD	
	37		Alpha+beta alloys cured	80-235	310	.0003	.0004	.0006	.0007	.0009	.0010	.0012	.0015	.0018	.0024	1xD	

# Roughing

ISO	Material No.	Material	Condition	Cutting Speed Recommendations (V <sub>c</sub> ) SFM	Hardness HB	Cutting Diameter Feed (IPT)											Profiling Radial	
						1/8	3/16	1/4	5/16	3/8	7/16	1/2	5/8	3/4	1	a <sub>p</sub>	a <sub>e</sub>	
P	1	Non-alloy steel and cast steel, free cutting steel	<.25%C	Annealed	985-1000	125	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD
	2		>=.25%C	Annealed	785-850	190	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD
	3		<.55%C	Quench and tempered	630-810	250	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD
	4		>=.55%C	Annealed	630-810	220	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD
	5		>=.55%C	Quenched & tempered	560-660	300	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD
	6	Low alloy & cast steel (less than 5% of alloying elements)	Annealed	630-810	200	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD	
	7		Quenched & tempered	470-660	275	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD	
	8		Quenched & tempered	500-660	300	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD	
	9		Quenched & tempered	550-660	350	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD	
	10	High alloyed steel, cast steel and tool steel	Annealed	500-660	200	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD	
	11		Quenched & tempered	270-450	325	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD	
	12	Stainless steel and cast steel	Ferritic/martensitic	310-590	200	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD	
	13		Martensitic	235-550	240	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD	
M	14	Stainless steel and cast steel	Austenitic	235-450	180	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD	
K	15	Grey cast iron (GG)	Pearlitic/ferritic	310-925	180	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD	
	16		Pearlitic/martensitic	500-875	260	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD	
	17	Nodular cast iron (GGG)	Ferritic	590-1000	160	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD	
	18		Pearlitic	590-1000	250	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD	
	19	Malleable cast iron	Ferritic	590-1000	130	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD	
	20		Pearlitic	550-890	230	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD	
S	31	High temp. alloys	Fe based	Annealed	80-150	200	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD
	32			Cured	80-115	280	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD
	33	Ni or Co based	Annealed	80-115	250	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD	
	34		Cured	80-115	350	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD	
	35		Cast	80-115	320	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD	
	36	Titanium Ti alloys	Pure	120-295	310	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD	
	37		Alpha+beta alloys cured	110-220	310	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD	
H	38	Hardened Steel	Hardened	HRC	110-210	55	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.02xD
	39			HRC	110-145	60	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.02xD
	40	Chilled Cast Iron	Cast	250-320	400	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.02xD	
	41	Cast Iron	Hardened	110-210	55	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.02xD	

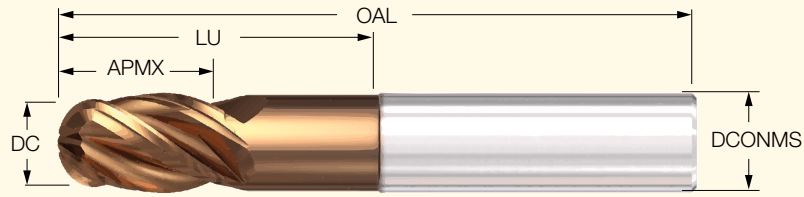
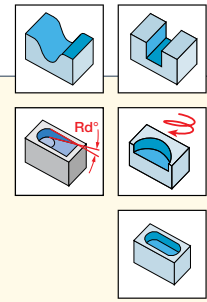
## Semi-Finish

ISO	Material No.	Material	Condition	Cutting Speed Recommendations (V <sub>c</sub> ) SFM	Hardness HB	Cutting Diameter Feed (IPT)										Profiling Radial		
						1/8	3/16	1/4	5/16	3/8	7/16	1/2	5/8	3/4	1	a <sub>p</sub>	a <sub>e</sub>	
P	1	Non-alloy steel and cast steel, free cutting steel	>=.25%C	Annealed	1230	125	.0009	.0013	.0017	.0021	.0025	.0030	.0034	.0042	.0050	.0068	1xD	.05xD
	2		>=.25%C	Annealed	1015	190	.0009	.0013	.0017	.0021	.0025	.0030	.0034	.0042	.0050	.0068	1xD	.05xD
	3		<.55%C	Quench and tempered	900	250	.0009	.0013	.0017	.0021	.0025	.0030	.0034	.0042	.0050	.0068	1xD	.05xD
	4		>=.55%C	Annealed	900	220	.0009	.0013	.0017	.0021	.0025	.0030	.0034	.0042	.0050	.0068	1xD	.05xD
	5		>=.55%C	Quenched & tempered	760	300	.0009	.0013	.0017	.0021	.0025	.0030	.0034	.0042	.0050	.0068	1xD	.05xD
	6		>=.55%C	Annealed	900	200	.0009	.0013	.0017	.0021	.0025	.0030	.0034	.0042	.0050	.0068	1xD	.05xD
	7	Low alloy & cast steel (less than 5% of alloying elements)		Quenched & tempered	710	275	.0009	.0013	.0017	.0021	.0025	.0030	.0034	.0042	.0050	.0068	1xD	.05xD
	8			Quenched & tempered	730	300	.0009	.0013	.0017	.0021	.0025	.0030	.0034	.0042	.0050	.0068	1xD	.05xD
	9			Quenched & tempered	760	350	.0009	.0013	.0017	.0021	.0025	.0030	.0034	.0042	.0050	.0068	1xD	.05xD
	10	High alloyed steel, cast steel and tool steel		Annealed	730	200	.0009	.0013	.0017	.0021	.0025	.0030	.0034	.0042	.0050	.0068	1xD	.05xD
	11			Quenched & tempered	450	325	.0009	.0013	.0017	.0021	.0025	.0030	.0034	.0042	.0050	.0068	1xD	.05xD
	12	Stainless steel and cast steel		Ferritic/martensitic	570	200	.0009	.0013	.0017	.0021	.0025	.0030	.0034	.0042	.0050	.0068	1xD	.05xD
	13			Martensitic	490	240	.0009	.0013	.0017	.0021	.0025	.0030	.0034	.0042	.0050	.0068	1xD	.05xD
M	14	Stainless steel and cast steel		Austenitic	425	180	.0009	.0013	.0017	.0021	.0025	.0030	.0034	.0042	.0050	.0068	1xD	.05xD
K	15	Grey cast iron (GG)		Pearlitic/ferritic	780	180	.0009	.0013	.0017	.0021	.0025	.0030	.0034	.0042	.0050	.0068	1xD	.05xD
	16			Pearlitic/martensitic	870	260	.0009	.0013	.0017	.0021	.0025	.0030	.0034	.0042	.0050	.0068	1xD	.05xD
	17			Ferritic	990	160	.0009	.0013	.0017	.0021	.0025	.0030	.0034	.0042	.0050	.0068	1xD	.05xD
	18			Pearlitic	990	250	.0009	.0013	.0017	.0021	.0025	.0030	.0034	.0042	.0050	.0068	1xD	.05xD
	19			Ferritic	990	130	.0009	.0013	.0017	.0021	.0025	.0030	.0034	.0042	.0050	.0068	1xD	.05xD
20	Malleable cast iron		Pearlitic	900	230	.0009	.0013	.0017	.0021	.0025	.0030	.0034	.0042	.0050	.0068	1xD	.05xD	
S	31	High temp. alloys	Fe based	Annealed	145	200	.0009	.0013	.0017	.0021	.0025	.0030	.0034	.0042	.0050	.0068	1xD	.05xD
	Cured			120	280	.0009	.0013	.0017	.0021	.0025	.0030	.0034	.0042	.0050	.0068	1xD	.05xD	
	33		Ni or Co based	Annealed	120	250	.0009	.0013	.0017	.0021	.0025	.0030	.0034	.0042	.0050	.0068	1xD	.05xD
	34			Cured	120	350	.0009	.0013	.0017	.0021	.0025	.0030	.0034	.0042	.0050	.0068	1xD	.05xD
	35			Cast	120	320	.0009	.0013	.0017	.0021	.0025	.0030	.0034	.0042	.0050	.0068	1xD	.05xD
	36			Pure	260	310	.0009	.0013	.0017	.0021	.0025	.0030	.0034	.0042	.0050	.0068	1xD	.05xD
37	Titanium Ti alloys		Alpha+beta alloys cured	250	310	.0009	.0013	.0017	.0021	.0025	.0030	.0034	.0042	.0050	.0068	1xD	.05xD	
H	38	Hardened Steel		Hardened	110-210	55 HRC	.0009	0.001	.0017	.0021	.0025	.0030	.0034	.0042	.0050	.0068	1xD	.02xD
	39			Hardened	110-145	60 HRC	.0009	0.001	.0017	.0021	.0025	.0030	.0034	.0042	.0050	.0068	1xD	.02xD
	40	Chilled Cast Iron		Cast	250-320	400	.0009	0.001	.0017	.0021	.0025	.0030	.0034	.0042	.0050	.0068	1xD	.02xD
	41	Cast Iron		Hardened	110-210	55 HRC	.0009	0.001	.0017	.0021	.0025	.0030	.0034	.0042	.0050	.0068	1xD	.02xD



**EBI-4-VF**

4 Flute Ball Nose Endmills With and Without Relieved Necks



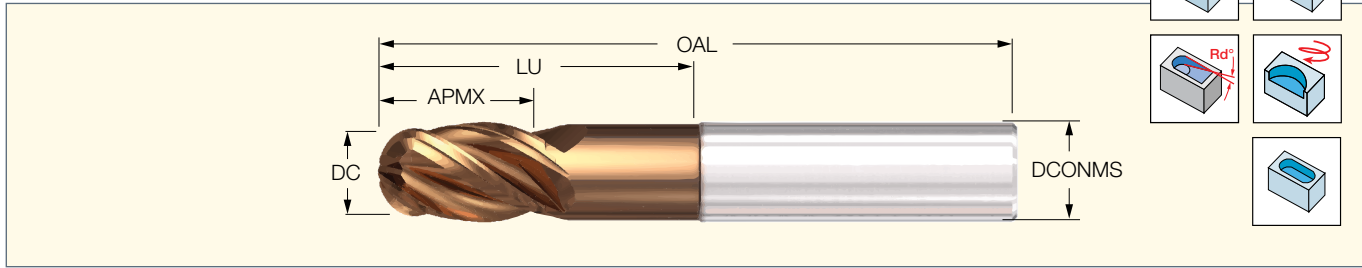
Designation	Dimensions						IC608
	DC	APMX	LU	DCONMS	OAL	NOF <sup>(1)</sup>	
EBI-4 125-500VF1.5	.125	.6500	.6500	.125	1.500	4	●
EBI-4 187-625CVF2	.188	.6250	.6250	.188	2.000	4	●
EBI-4 250-375CVF2	.250	.3750	.3750	.250	2.000	4	●
EBI-4 250-500/1.25CVF3	.250	.6500	1.2500	.250	3.000	4	●
EBI-4 250-400/2.12CVF4	.250	.6500	2.1250	.250	4.000	4	●
EBI-4 250-750CVF2.5	.250	.7500	.7500	.250	2.500	4	●
EBI-4 250-1.0CVF3	.250	1.0000	1.0000	.250	3.000	4	●
EBI-4 250-1.25CVF4	.250	1.2500	1.2500	.250	4.000	4	●
EBI-4 250-1.75CVF4	.250	1.7500	1.7500	.250	4.000	4	●
EBI-4 312-500CVF2	.313	.6500	.6500	.313	2.000	4	●
EBI-4 312-875CVF2.5	.313	.8750	.8750	.313	2.500	4	●
EBI-4 312-1.0CVF3	.313	1.0000	1.0000	.313	3.000	4	●
EBI-4 312-1.25CVF4	.313	1.2500	1.2500	.313	4.000	4	●
EBI-4 312-1.62CVF4	.313	1.6250	1.6250	.313	4.000	4	●
EBI-4 375-500CVF2	.375	.6500	.6500	.375	2.000	4	●
EBI-4 375-750/1.25CVF3	.375	.7500	1.2500	.375	3.000	4	●
EBI-4 375-750/2.12CVF4	.375	.7500	2.1250	.375	4.000	4	●
EBI-4 375-1.0CVF2.5	.375	1.0000	1.0000	.375	2.500	4	●
EBI-4 375-1.0CVF3	.375	1.0000	1.0000	.375	3.000	4	●
EBI-4 375-1.5CVF4	.375	1.5000	1.5000	.375	4.000	4	●
EBI-4 375-2.5CVF5	.375	2.5000	2.5000	.375	5.000	4	●
EBI-4 437-625CVF2.75	.437	.6250	.6250	.437	2.750	4	●
EBI-4 437-1.0CVF2.75	.437	1.0000	1.0000	.437	2.750	4	●
EBI-4 437-1.5CVF4	.437	1.5000	1.5000	.437	4.000	4	●
EBI-4 437-3.0CVF6	.437	3.0000	3.0000	.437	6.000	4	●
EBI-4 500-625CVF2.5	.500	.6250	.6250	.500	2.500	4	●
EBI-4 500-875/1.37CVF3	.500	.8750	1.3750	.500	3.000	4	●
EBI-4 500-875/2.12CVF4	.500	.8750	2.1250	.500	4.000	4	●
EBI-4 500-875/4.12CVF6	.500	.8750	4.1250	.500	6.000	4	●
EBI-4 500-1.0CVF3	.500	1.0000	1.0000	.500	3.000	4	●
EBI-4 500-1.25CVF3	.500	1.2500	1.2500	.500	3.000	4	●
EBI-4 500-1.5CVF4	.500	1.5000	1.5000	.500	4.000	4	●
EBI-4 500-2.0CVF4	.500	2.0000	2.0000	.500	4.000	4	●
EBI-4 500-2.5CVF5	.500	2.5000	2.5000	.500	5.000	4	●
EBI-4 500-3.0CVF6	.500	3.0000	3.0000	.500	6.000	4	●
EBI-4 625-750CVF3	.625	.7500	.7500	.625	3.000	4	●
EBI-4 625-1.0/2.0CVF4	.625	1.0000	2.0000	.625	4.000	4	●
EBI-4 625-1.0/3.0CVF5	.625	1.0000	3.0000	.625	5.000	4	●
EBI-4 625-1.0/4.0CVF6	.625	1.0000	4.0000	.625	6.000	4	●
EBI-4 625-1.25CVF3.5	.625	1.2500	1.2500	.625	3.500	4	●
EBI-4 625-1.75CVF4	.625	1.7500	1.7500	.625	4.000	4	●
EBI-4 625-2.25CVF5	.625	2.2500	2.2500	.625	5.000	4	●
EBI-4 625-3.0CVF6	.625	3.0000	3.0000	.625	6.000	4	●
EBI-4 750-875CVF3	.750	.8750	.8750	.750	3.000	4	●
EBI-4 750-1.25/2.0CVF4	.750	1.2500	2.0000	.750	4.000	4	●
EBI-4 750-1.25/3.0CVF5	.750	1.2500	3.0000	.750	5.000	4	●
EBI-4 750-1.25/4.0CVF6	.750	1.2500	4.0000	.750	6.000	4	●
EBI-4 750-1.5CVF4	.750	1.5000	1.5000	.750	4.000	4	●
EBI-4 750-1.62CVF4	.750	1.6250	1.6250	.750	4.000	4	●
EBI-4 750-2.25CVF5	.750	2.2500	2.2500	.750	5.000	4	●
EBI-4 750-3.0CVF6	.750	3.0000	3.0000	.750	6.000	4	●
EBI-4 750-4.0CVF7	.750	4.0000	4.0000	.750	7.000	4	●

<sup>(1)</sup> Number of flutes

● Weldon shank available upon request. Substitute a **W** in place of the **C** in the listed designations (example - ECI-4 375-1.0**C**03VF2.5 = cylindrical type; ECI-4 375-1.0**W**03VF2.5 = Weldon type)

**EBI-4-VF** continued

4 Flute Ball Nose Endmills With and Without Relieved Necks



Designation	Dimensions						IC608
	DC	APMX	LU	DCONMS	OAL	NOF <sup>(1)</sup>	
EBI-4 1.0-1.5CVF4	1.000	1.5000	1.5000	1.000	4.000	4	●
EBI-4 1.0-1.5/3.0CVF5	1.000	1.5000	3.0000	1.000	5.000	4	●
EBI-4 1.0-1.5/4.0CVF6	1.000	1.5000	4.0000	1.000	6.000	4	●
EBI-4 1.0-1.5/5.0CVF7	1.000	1.5000	5.0000	1.000	7.000	4	●
EBI-4 1.0-2.0CVF45	1.000	2.0000	2.0000	1.000	4.500	4	●
EBI-4 1.0-2.25CVF5	1.000	2.2500	2.2500	1.000	5.000	4	●
EBI-4 1.0-3.0CVF6	1.000	3.0000	3.0000	1.000	6.000	4	●
EBI-4 1.0-4.0CVF7	1.000	4.0000	4.0000	1.000	7.000	4	●

<sup>(1)</sup> Number of flutes

- Weldon shank available upon request. Substitute a **W** in place of the **C** in the listed designations (example - ECI-4 375-1.0**C**03VF2.5 = cylindrical type; ECI-4 375-1.0**W**03VF2.5 = Weldon type)

**Slotting**

ISO	Material Group No.	Material	Condition	Cutting Speed Recommendations V <sub>c</sub> (SFM)	Hardness HB	Feed (IPT) per Cutting Diameter (inch)										Axial Slotting a <sub>p</sub> max		
						1/8	3/16	1/4	5/16	3/8	7/16	1/2	5/8	3/4	1			
P	1	Non-alloy steel and cast steel, free cutting steel	<0.25% C	Annealed	740-800	125	.001	.001	.001	.001	.001	.001	.002	.002	.003	0.004	1xD	
	2		≥0.25% C	Annealed	590-680	190	.001	.001	.001	.001	.001	.001	.002	.002	.003	0.004	1xD	
	3		<0.55% C	Quenched and tempered	475-650	250	.001	.001	.001	.001	.001	.001	.002	.002	.003	0.004	1xD	
	4		≥0.55% C	Annealed	475-650	220	.001	.001	.001	.001	.001	.001	.002	.002	.003	0.004	1xD	
	5		≥0.55% C	Quenched and tempered	420-530	300	.001	.001	.001	.001	.001	.001	.002	.002	.003	0.004	1xD	
	6	Low alloy and cast steel (less than 5% of alloying elements)	≥0.55% C	Annealed	475-650	200	.001	.001	.001	.001	.001	.001	.002	.002	.003	0.004	1xD	
	7		≥0.55% C	Quenched and tempered	355-530	275	.001	.001	.001	.001	.001	.001	.002	.002	.003	0.004	1xD	
	8		≥0.55% C	Quenched and tempered	380-530	300	.001	.001	.001	.001	.001	.001	.002	.002	.003	0.004	1xD	
	9		≥0.55% C	Quenched and tempered	415-530	350	.001	.001	.001	.001	.001	.001	.002	.002	.003	0.004	1xD	
	10	High alloyed steel, cast steel and tool steel	≥0.55% C	Annealed	380-530	200	.001	.001	.001	.001	.001	.001	.001	.002	0.003	1xD		
	11		≥0.55% C	Quenched and tempered	200-360	325	.001	.001	.001	.001	.001	.001	.001	.002	0.003	1xD		
	12	Stainless steel and cast steel	≥0.55% C	Ferritic/martensitic	230-475	200	.001	.001	.001	.001	.002	.002	.002	.003	.003	0.004	1xD	
	13		≥0.55% C	Martensitic	175-440	240	.001	.001	.001	.001	.002	.002	.002	.003	.003	0.004	1xD	
M	14	Stainless steel and cast steel	≥0.55% C	Austenitic, duplex	175-360	180	.001	.001	.001	.001	.001	.002	.002	.002	.003	0.004	1xD	
K	15	Gray cast iron (GG)	≥0.55% C	Ferritic / pearlitic	235-740	180	.001	.001	.002	.002	.003	.003	.004	.005	.006	0.008	1xD	
	16		≥0.55% C	Pearlitic / martensitic	380-700	260	.001	.001	.002	.002	.003	.003	.004	.005	.006	0.008	1xD	
	17	Nodular cast iron (GGG)	≥0.55% C	Ferritic	440-800	160	.001	.001	.001	.001	.001	.001	.002	.002	.003	0.004	1xD	
	18		≥0.55% C	Pearlitic	440-800	250	.001	.001	.001	.001	.001	.001	.002	.002	.003	0.004	1xD	
	19	Malleable cast iron	≥0.55% C	Ferritic	440-800	130	.001	.001	.001	.001	.001	.001	.002	.002	.003	0.004	1xD	
	20		≥0.55% C	Pearlitic	415-710	230	.001	.001	.001	.001	.001	.001	.002	.002	.003	0.004	1xD	
S	31	High temperature alloys	Fe based	≥0.55% C	Annealed	60-120	200	.001	.001	.001	.001	.001	.001	.002	.002	.003	0.004	1xD
	32			≥0.55% C	Hardened	60-90	280	.001	.001	.001	.001	.001	.001	.002	.002	.003	0.004	1xD
	33		Ni or Co based	≥0.55% C	Annealed	60-90	250	.001	.001	.001	.001	.001	.001	.002	.002	.003	0.004	1xD
	34			≥0.55% C	Hardened	60-90	350	.001	.001	.001	.001	.001	.001	.002	.002	.003	0.004	1xD
	35			≥0.55% C	Cast	60-90	320	.001	.001	.001	.001	.001	.001	.002	.002	.003	0.004	1xD
	36		Titanium alloys	≥0.55% C	Pure	90-235	190	.001	.001	.001	.001	.002	.002	.003	.003	.003	0.004	1xD
	37			≥0.55% C	Alpha+Beta alloys, hardened	80-235	310	.001	.001	.001	.001	.001	.001	.002	.002	.003	0.004	1xD

# Roughing

ISO	Material Group No.	Material	Condition	Cutting Speed Recommendations V <sub>c</sub> (SFM)	Hardness HB	Feed (IPT) per Cutting Diameter (inch)										Radial Profiling		
						1/8	3/16	1/4	5/16	3/8	7/16	1/2	5/8	3/4	1	a <sub>p</sub>	a <sub>e</sub>	
P	1	Non-alloy steel and cast steel, free cutting steel	<0.25% C	Annealed	985-1000	125	.001	.001	.001	.001	.002	.002	.003	.003	.004	.005	.75xD-1.5xD	.25xD-.4xD
	2		≥0.25% C	Annealed	785-850	190	.001	.001	.001	.001	.002	.002	.003	.003	.004	.005	.75xD-1.5xD	.25xD-.4xD
	3		<0.55% C	Quenched and tempered	630-810	250	.001	.001	.001	.001	.002	.002	.003	.003	.004	.005	.75xD-1.5xD	.25xD-.4xD
	4		≥0.55% C	Annealed	630-810	220	.001	.001	.001	.001	.002	.002	.003	.003	.004	.005	.75xD-1.5xD	.25xD-.4xD
	5			Quenched and tempered	560-660	300	.001	.001	.001	.001	.002	.002	.003	.003	.004	.005	.75xD-1.5xD	.25xD-.4xD
	6	Low alloy and cast steel (less than 5% of alloying elements)	Annealed	630-810	200	.001	.001	.001	.001	.002	.002	.003	.003	.004	.005	.75xD-1.5xD	.25xD-.4xD	
	7		Quenched and tempered	470-660	275	.0006	.001	.001	.001	.002	.002	.002	.003	.004	.005	.75xD-1.5xD	.25xD-.4xD	
	8			500-660	300	.0006	.001	.001	.001	.002	.002	.002	.003	.004	.005	.75xD-1.5xD	.25xD-.4xD	
	9		550-660	350	.0006	.001	.001	.001	.002	.002	.002	.003	.004	.005	.75xD-1.5xD	.25xD-.4xD		
	10	High alloyed steel, cast steel and tool steel	Annealed	500-660	200	.0004	.0007	.001	.001	.001	.001	.002	.002	.003	.003	.003	.75xD-1.5xD	.25xD-.4xD
	11		Quenched and tempered	270-450	325	.0004	.0007	.001	.001	.001	.001	.002	.002	.003	.003	.003	.75xD-1.5xD	.25xD-.4xD
	12	Stainless steel and cast steel	Ferritic/martensitic	310-590	200	.0007	.001	.001	.002	.002	.002	.003	.004	.004	.006	.75xD-1.5xD	.25xD-.4xD	
	13		Martensitic	235-550	240	.0007	.001	.001	.002	.002	.002	.003	.004	.004	.006	.75xD-1.5xD	.25xD-.4xD	
M	14	Stainless steel and cast steel	Austenitic, duplex	235-450	180	.0005	.0007	.001	.001	.001	.002	.002	.002	.003	.004	.75xD-1.5xD	.25xD-.4xD	
K	15	Gray cast iron (GG)	Ferritic / pearlitic	310-925	180	.001	.001	.001	.002	.003	.003	.004	.005	.006	.008	.75xD-1.5xD	.25xD-.4xD	
	16		Pearlitic / martensitic	500-875	260	.001	.001	.001	.002	.003	.003	.004	.003	.006	.008	.75xD-1.5xD	.25xD-.4xD	
	17	Nodular cast iron (GGG)	Ferritic	590-1000	160	.0006	.001	.001	.002	.003	.002	.002	.003	.004	.005	.75xD-1.5xD	.25xD-.4xD	
	18		Pearlitic	590-1000	250	.0006	.001	.001	.001	.002	.002	.002	.003	.004	.005	.75xD-1.5xD	.25xD-.4xD	
	19	Malleable cast iron	Ferritic	590-1000	130	.0006	.001	.001	.001	.002	.002	.002	.003	.004	.005	.75xD-1.5xD	.25xD-.4xD	
	20		Pearlitic	550-890	230	.0006	.001	.001	.001	.002	.002	.002	.003	.004	.005	.75xD-1.5xD	.25xD-.4xD	
S	31	High temperature alloys	Fe based	Annealed	80-150	200	.0007	.001	.001	.001	.002	.002	.003	.003	.004	.005	.75xD-1.5xD	.25xD-.4xD
	32			Hardened	80-115	280	.0007	.001	.001	.001	.002	.002	.003	.003	.004	.005	.75xD-1.5xD	.25xD-.4xD
	33	Ni or Co based	Annealed	80-115	250	.0007	.001	.001	.001	.002	.002	.003	.003	.004	.005	.75xD-1.5xD	.25xD-.4xD	
	34		Hardened	80-115	350	.0007	.001	.001	.001	.002	.002	.003	.003	.004	.005	.75xD-1.5xD	.25xD-.4xD	
	35		Cast	80-115	320	.0007	.001	.001	.001	.002	.002	.003	.003	.004	.005	.75xD-1.5xD	.25xD-.4xD	
	36	Titanium alloys	Pure	120-295	190	.0006	.001	.001	.001	.002	.002	.002	.002	.003	.004	.75xD-1.5xD	.25xD-.4xD	
	37		Alpha+Beta alloys, hardened	110-220	310	.0006	.001	.001	.001	.002	.002	.002	.002	.003	.004	.75xD-1.5xD	.25xD-.4xD	
H	38	Hardened steel	Hardened	110-210	55 HRC	0.001	0.001	0.001	0.001	0.002	0.002	0.003	0.003	0.004	0.005	.75xD-1.5xD	.02xD	
	39		Hardened	110-145	60 HRC	0.001	0.001	0.001	0.001	0.002	0.002	0.003	0.003	0.004	0.005	.75xD-1.5xD	.02xD	
	40	Chilled cast iron	Cast	250-320	400	0.001	0.001	0.001	0.001	0.002	0.002	0.003	0.003	0.004	0.005	.75xD-1.5xD	.02xD	
	41	Cast iron	Hardened	110-210	55 HRC	0.001	0.001	0.001	0.001	0.002	0.002	0.003	0.003	0.004	0.005	.75xD-1.5xD	.02xD	

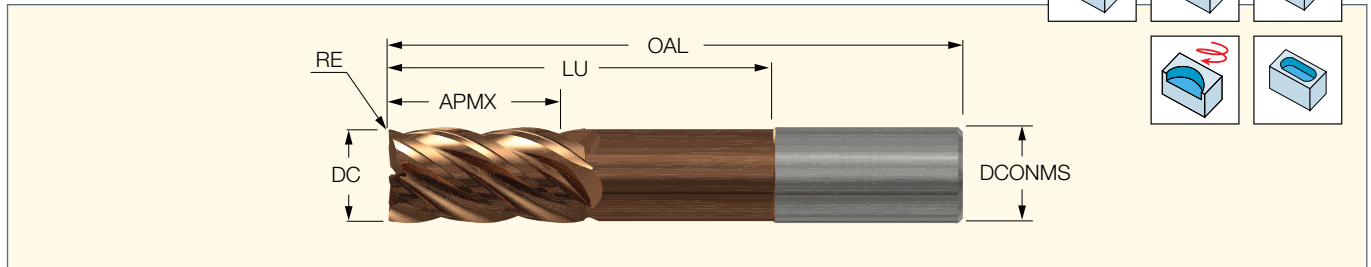
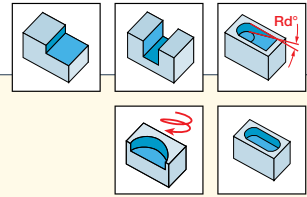
## Semi-Finish and Finishing

ISO	Material Group No.	Material	Condition	Cutting Speed Recommendations V <sub>c</sub> (SFM)	Hardness HB	Feed (IPT) per Cutting Diameter (inch)										Radial Profiling		
						1/8	3/16	1/4	5/16	3/8	7/16	1/2	5/8	3/4	1	a <sub>p</sub>	a <sub>e</sub>	
P	1	<0.25% C	Annealed	1230	125	.0005	.0008	.001	.001	.001	.001	.002	.002	.002	.003	1xD	.05xD	
	2	≥0.25% C	Annealed	1015	190	.0005	.0008	.001	.001	.001	.001	.002	.002	.002	.003	1xD	.05xD	
	3	Non-alloy steel and cast steel, free cutting steel	<0.55% C	Quenched and tempered	900	250	.0005	.0008	.001	.001	.001	.001	.002	.002	.002	.003	1xD	.05xD
	4		≥0.55% C	Annealed	900	220	.0005	.0008	.001	.001	.001	.001	.002	.002	.002	.003	1xD	.05xD
	5		Quenched & tempered	760	300	.0005	.0008	.001	.001	.001	.001	.002	.002	.002	.003	1xD	.05xD	
	6		Annealed	900	200	.0005	.0008	.001	.001	.001	.001	.002	.002	.002	.003	1xD	.05xD	
	7	Low alloy & cast steel (less than 5% of alloying elements)	Quenched & tempered	710	275	.0005	.0007	.001	.001	.001	.001	.002	.002	.003	.004	1xD	.05xD	
	8		Quenched & tempered	730	300	.0005	.0007	.001	.001	.001	.001	.002	.002	.003	.004	1xD	.05xD	
	9		Quenched & tempered	760	350	.0005	.0007	.001	.001	.001	.001	.002	.002	.003	.004	1xD	.05xD	
	10	High alloyed steel, cast steel and tool steel	Annealed	730	200	.0003	.0004	.0005	.0006	.0008	.0009	.001	.001	.001	.002	1xD	.05xD	
	11		Quenched & tempered	450	325	.0003	.0004	.0005	.0006	.0008	.0009	.001	.001	.001	.002	1xD	.05xD	
	12	Stainless steel and cast steel	Ferritic/martensitic	570	200	.0004	.0007	.001	.001	.001	.001	.002	.002	.003	.003	1xD	.05xD	
	13		Martensitic	490	240	.0004	.0007	.001	.001	.001	.001	.002	.002	.003	.003	1xD	.05xD	
M	14	Stainless steel and cast steel	Austenitic, duplex	425	180	.0004	.0005	.0007	.001	.001	.001	.001	.001	.002	.003	1xD	.05xD	
K	15	Grey cast iron (GG)	Ferritic / pearlitic	780	180	.001	.001	.002	.002	.003	.003	.003	.004	.005	.007	1xD	.05xD	
	16		Pearlitic/martensitic	870	260	.001	.001	.002	.002	.003	.003	.003	.004	.005	.007	1xD	.05xD	
	17	Nodular cast iron (GGG)	Ferritic	990	160	.0004	.0006	.0008	.001	.001	.001	.001	.002	.002	.003	1xD	.05xD	
	18		Pearlitic	990	250	.0004	.0006	.0008	.001	.001	.001	.001	.002	.002	.003	1xD	.05xD	
	19	Malleable cast iron	Ferritic	990	130	.0004	.0006	.0008	.001	.001	.001	.001	.002	.002	.003	1xD	.05xD	
	20		Pearlitic	900	230	.0004	.0006	.0008	.001	.001	.001	.001	.002	.002	.003	1xD	.05xD	
S	31	High temp. alloys	Fe based	Annealed	145	200	.0003	.0004	0.006	.0007	.0008	.001	.001	.001	.002	.002	1xD	.05xD
	32		Hardened	120	280	.0003	.0004	0.006	.0007	.0008	.001	.001	.001	.002	.002	1xD	.05xD	
	33	Ni or Co based	Annealed	120	250	.0003	.0004	0.006	.0007	.0008	.001	.001	.001	.002	.002	1xD	.05xD	
	34		Hardened	120	350	.0003	.0004	0.006	.0007	.0008	.001	.001	.001	.002	.002	1xD	.05xD	
	35		Cast	120	320	.0003	.0004	0.006	.0007	.0008	.001	.001	.001	.002	.002	1xD	.05xD	
	36		Pure	260	190	.0003	.0004	0.006	.0007	.001	.001	.001	.001	.002	.002	1xD	.05xD	
	37	Titanium alloys	Alpha+Beta alloys, hardened	250	310	.0003	.0004	0.006	.0007	.001	.001	.001	.001	.002	.002	1xD	.05xD	
H	38	Hardened Steel	Hardened	110-210	55 HRC	.0003	.0004	0.006	.0007	.0008	.001	.001	.001	.002	.002	1xD	.02xD	
	39		Hardened	110-145	60 HRC	.0003	.0004	0.006	.0007	.0008	.001	.001	.001	.002	.002	1xD	.02xD	
	40	Chilled Cast Iron	Cast	250-320	400	.0003	.0004	0.006	.0007	.0008	.001	.001	.001	.002	.002	1xD	.02xD	
	41	Cast Iron	Hardened	110-210	55 HRC	.0003	.0004	0.006	.0007	.0008	.001	.001	.001	.002	.002	1xD	.02xD	



**ECI-5-VF**

5 Flute Endmill With and Without Relieved Neck, Assorted Radii and Variable Pitch for Chatter Dampening



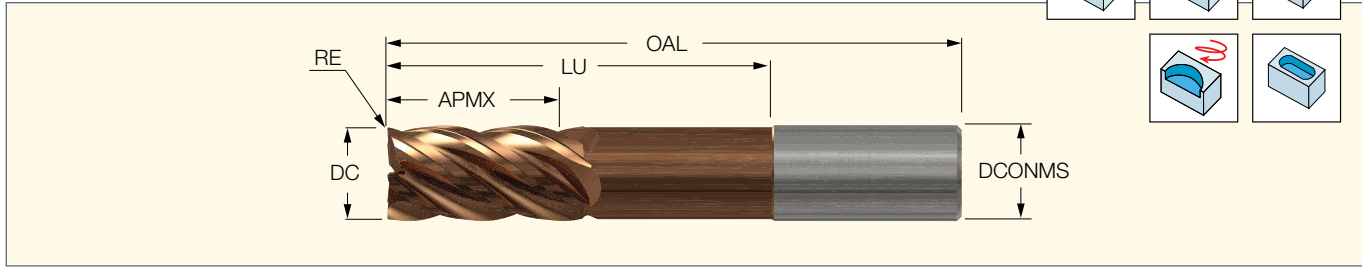
Designation	Dimensions								IC608
	DC	APMX	LU	RE	DCONMS	OAL	NOF <sup>(1)</sup>	Shank	
ECI-5 .25-.5/2.1C.010VF4	.250	.5000	2.1250	.0100	.250	4.000	5	C	●
ECI-5 .25-.5/2.1C.015VF4	.250	.5000	2.1250	.0150	.250	4.000	5	C	●
ECI-5 .25-.5/2.1W.015VF4	.250	.5000	2.1250	.0150	.250	4.000	5	W	●
ECI-5 .25-.5/2.13C.03VF4	.250	.5000	2.1250	.0300	.250	4.000	5	C	●
ECI-5 .25-.5/2.13C.06VF4	.250	.5000	2.1250	.0600	.250	4.000	5	C	●
ECI-5 .25-.5/2.13CVF4	.250	.5000	2.1250	0	.250	4.000	5	C	●
ECI-5 .25-.5/2.13W.03VF4	.250	.5000	2.1250	.0300	.250	4.000	5	W	●
ECI-5 .25-.5/2.13W.06VF4	.250	.5000	2.1250	.0600	.250	4.000	5	W	●
ECI-5 .25-.5/2.13WVF4	.250	.5000	2.1250	0	.250	4.000	5	W	●
ECI-5 .25-.5C.010VF2	.250	.5000	.5000	.0100	.250	2.000	5	C	●
ECI-5 .25-.5C.015VF2	.250	.5000	.5000	.0150	.250	2.000	5	C	●
ECI-5 .25-.5C.03VF2	.250	.5000	.5000	.0300	.250	2.000	5	C	●
ECI-5 .25-.5C.06VF2	.250	.5000	.5000	.0600	.250	2.000	5	C	●
ECI-5 .25-.5C0VF2	.250	.5000	.5000	0	.250	2.000	5	C	●
ECI-5 .25-.5W.015VF2	.250	.5000	.5000	.0150	.250	2.000	5	W	●
ECI-5 .25-.5W.03VF2	.250	.5000	.5000	.0300	.250	2.000	5	W	●
ECI-5 .25-.5W.06VF2	.250	.5000	.5000	.0600	.250	2.000	5	W	●
ECI-5 .25-.5W0VF2	.250	.5000	.5000	0	.250	2.000	5	W	●
ECI-5 .25-.75C.010VF2.5	.250	.7500	.7500	.0100	.250	2.500	5	C	●
ECI-5 .25-.75C.015VF2.5	.250	.7500	.7500	.0150	.250	2.500	5	C	●
ECI-5 .25-.75C.03VF2.5	.250	.7500	.7500	.0300	.250	2.500	5	C	●
ECI-5 .25-.75C.06VF2.5	.250	.7500	.7500	.0600	.250	2.500	5	C	●
ECI-5 .25-.75C0VF2.5	.250	.7500	.7500	0	.250	2.500	5	C	●
ECI-5 .25-.75W.015VF2.5	.250	.7500	.7500	.0150	.250	2.500	5	W	●
ECI-5 .25-.75W.03VF2.5	.250	.7500	.7500	.0300	.250	2.500	5	W	●
ECI-5 .25-.75W.06VF2.5	.250	.7500	.7500	.0600	.250	2.500	5	W	●
ECI-5 .25-.75W0VF2.5	.250	.7500	.7500	0	.250	2.500	5	W	●
ECI-5 .25-1.C.010VF3	.250	1.0000	1.0000	.0100	.250	3.000	5	C	●
ECI-5 .25-1.C.015VF3	.250	1.0000	1.0000	.0150	.250	3.000	5	C	●
ECI-5 .25-1.C.03VF3	.250	1.0000	1.0000	.0300	.250	3.000	5	C	●
ECI-5 .25-1.C0VF3	.250	1.0000	1.0000	0	.250	3.000	5	C	●
ECI-5 .25-1.W.015VF3	.250	1.0000	1.0000	.0150	.250	3.000	5	W	●
ECI-5 .25-1.W.03VF3	.250	1.0000	1.0000	.0300	.250	3.000	5	W	●
ECI-5 .25-1.W0VF3	.250	1.0000	1.0000	0	.250	3.000	5	W	●
ECI-5 .375-.5C.010VF2	.375	.5000	.5000	.0100	.375	2.000	5	C	●
ECI-5 .375-.5C.015VF2	.375	.5000	.5000	.0150	.375	2.000	5	C	●
ECI-5 .375-.5C.03VF2	.375	.5000	.5000	.0300	.375	2.000	5	C	●
ECI-5 .375-.5C.06VF2	.375	.5000	.5000	.0600	.375	2.000	5	C	●
ECI-5 .375-.5C.09VF2	.375	.5000	.5000	.0900	.375	2.000	5	C	●
ECI-5 .375-.5C.125VF2	.375	.5000	.5000	.1250	.375	2.000	5	C	●
ECI-5 .375-.5C0VF2	.375	.5000	.5000	0	.375	2.000	5	C	●
ECI-5 .375-.5W.015VF2	.375	.5000	.5000	.0150	.375	2.000	5	W	●
ECI-5 .375-.5W.03VF2	.375	.5000	.5000	.0300	.375	2.000	5	W	●
ECI-5 .375-.5W.06VF2	.375	.5000	.5000	.0600	.375	2.000	5	W	●
ECI-5 .375-.5W.09VF2	.375	.5000	.5000	.0900	.375	2.000	5	W	●
ECI-5 .375-.5W.125VF2	.375	.5000	.5000	.1250	.375	2.000	5	W	●
ECI-5 .375-.5W0VF2	.375	.5000	.5000	0	.375	2.000	5	W	●
ECI-5 .375-.75/2.13CVF4	.375	.7500	2.1250	0	.375	4.000	5	C	●
ECI-5 .375-.75/2.13WVF4	.375	.7500	2.1250	0	.375	4.000	5	W	●
ECI-5 .375-.8/2.C.010VF4	.375	.7500	2.0000	.0100	.375	4.000	5	C	●

<sup>(1)</sup> Number of flutes

• Weldon shank available upon request. Substitute a **W** in place of the **C** in the listed designations (example - ECI-4 375-1.0C03VF2.5 = cylindrical type; ECI-4 375-1.0W03VF2.5 = Weldon type)

**ECI-5-VF** Continued

5 Flute Endmill With and Without Relieved Neck, Assorted Radii and Variable Pitch for Chatter Dampening



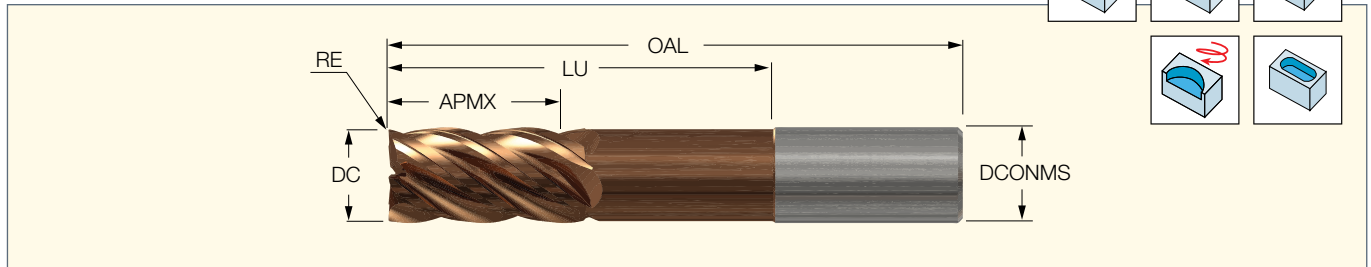
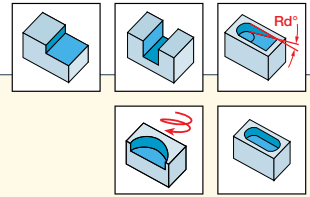
Designation	Dimensions								IC608
	DC	APMX	LU	RE	DCONMS	OAL	NOF <sup>(1)</sup>	Shank	
ECI-5 .375-.8/2.C.015VF4	.375	.7500	2.1250	.0150	.375	4.000	5	C	●
ECI-5 .375-.8/2.W.015VF4	.375	.7500	2.1250	.0150	.375	4.000	5	W	●
ECI-5 .375-.8/2.1C.03VF4	.375	.7500	2.1250	.0300	.375	4.000	5	C	●
ECI-5 .375-.8/2.1C.06VF4	.375	.7500	2.1250	.0600	.375	4.000	5	C	●
ECI-5 .375-.8/2.1W.03VF4	.375	.7500	2.1250	.0300	.375	4.000	5	W	●
ECI-5 .375-.8/2.1W.06VF4	.375	.7500	2.1250	.0600	.375	4.000	5	W	●
ECI-5 .375-1.C.010VF2.5	.375	1.0000	1.0000	.0100	.375	2.500	5	C	●
ECI-5 .375-1.C.010VF3	.375	1.0000	1.0000	.0100	.375	3.000	5	C	●
ECI-5 .375-1.C.015VF2.5	.375	1.0000	1.0000	.0150	.375	2.500	5	C	●
ECI-5 .375-1.C.015VF3	.375	1.0000	1.0000	.0150	.375	3.000	5	C	●
ECI-5 .375-1.C.03VF2.5	.375	1.0000	1.0000	.0300	.375	2.500	5	C	●
ECI-5 .375-1.C.03VF3	.375	1.0000	1.0000	.0300	.375	3.000	5	C	●
ECI-5 .375-1.C.06VF2.5	.375	1.0000	1.0000	.0600	.375	2.500	5	C	●
ECI-5 .375-1.C.06VF3	.375	1.0000	1.0000	.0600	.375	3.000	5	C	●
ECI-5 .375-1.C.09VF2.5	.375	1.0000	1.0000	.0900	.375	2.500	5	C	●
ECI-5 .375-1.C.09VF3	.375	1.0000	1.0000	.0900	.375	3.000	5	C	●
ECI-5 .375-1.C.125VF2.5	.375	1.0000	1.0000	.1250	.375	2.500	5	C	●
ECI-5 .375-1.C.125VF3	.375	1.0000	1.0000	.1250	.375	3.000	5	C	●
ECI-5 .375-1.C0VF2.5	.375	1.0000	1.0000	0	.375	2.500	5	C	●
ECI-5 .375-1.C0VF3	.375	1.0000	1.0000	0	.375	3.000	5	C	●
ECI-5 .375-1.W.015VF2.5	.375	1.0000	1.0000	.0150	.375	2.500	5	W	●
ECI-5 .375-1.W.015VF3	.375	1.0000	1.0000	.0150	.375	3.000	5	W	●
ECI-5 .375-1.W.03VF2.5	.375	1.0000	1.0000	.0300	.375	2.500	5	W	●
ECI-5 .375-1.W.03VF3	.375	1.0000	1.0000	.0300	.375	3.000	5	W	●
ECI-5 .375-1.W.06VF2.5	.375	1.0000	1.0000	.0600	.375	2.500	5	W	●
ECI-5 .375-1.W.06VF3	.375	1.0000	1.0000	.0600	.375	3.000	5	W	●
ECI-5 .375-1.W.09VF2.5	.375	1.0000	1.0000	.0900	.375	2.500	5	W	●
ECI-5 .375-1.W.09VF3	.375	1.0000	1.0000	.0900	.375	3.000	5	W	●
ECI-5 .375-1.W.125VF2.5	.375	1.0000	1.0000	.1250	.375	2.500	5	W	●
ECI-5 .375-1.W.125VF3	.375	1.0000	1.0000	.1250	.375	3.000	5	W	●
ECI-5 .375-1.W0VF2.5	.375	1.0000	1.0000	0	.375	2.500	5	W	●
ECI-5 .375-1.W0VF3	.375	1.0000	1.0000	0	.375	3.000	5	W	●
ECI-5 .375-1.5C.015VF4	.375	1.5000	1.5000	.0150	.375	4.000	5	C	●
ECI-5 .375-1.5C.03VF4	.375	1.5000	1.5000	.0300	.375	4.000	5	C	●
ECI-5 .375-1.5C.06VF4	.375	1.5000	1.5000	.0600	.375	4.000	5	C	●
ECI-5 .375-1.5C.09VF4	.375	1.5000	1.5000	.0900	.375	4.000	5	C	●
ECI-5 .375-1.5C.125VF4	.375	1.5000	1.5000	.1250	.375	4.000	5	C	●
ECI-5 .375-1.5C0VF4	.375	1.5000	1.5000	0	.375	4.000	5	C	●
ECI-5 .375-1.5W.015VF4	.375	1.5000	1.5000	.0150	.375	4.000	5	W	●
ECI-5 .375-1.5W.03VF4	.375	1.5000	1.5000	.0300	.375	4.000	5	W	●
ECI-5 .375-1.5W.06VF4	.375	1.5000	1.5000	.0600	.375	4.000	5	W	●
ECI-5 .375-1.5W.09VF4	.375	1.5000	1.5000	.0900	.375	4.000	5	W	●
ECI-5 .375-1.5W.125VF4	.375	1.5000	1.5000	.1250	.375	4.000	5	W	●
ECI-5 .375-1.5W0VF4	.375	1.5000	1.5000	0	.375	4.000	5	W	●
ECI-5 .5-.63C.010VF2.5	.500	.6250	.6250	.0100	.500	2.500	5	C	●
ECI-5 .5-.63C.015VF2.5	.500	.6250	.6250	.0150	.500	2.500	5	C	●
ECI-5 .5-.63C.03VF2.5	.500	.6250	.6250	.0300	.500	2.500	5	C	●
ECI-5 .5-.63C.06VF2.5	.500	.6250	.6250	.0600	.500	2.500	5	C	●

<sup>(1)</sup> Number of flutes

• Weldon shank available upon request. Substitute a **W** in place of the **C** in the listed designations (example - ECI-4 375-1.0**C**03VF2.5 = cylindrical type; ECI-4 375-1.0**W**03VF2.5 = Weldon type)

**ECI-5-VF** Continued

5 Flute Endmill With and Without Relieved Neck, Assorted Radii and Variable Pitch for Chatter Dampening



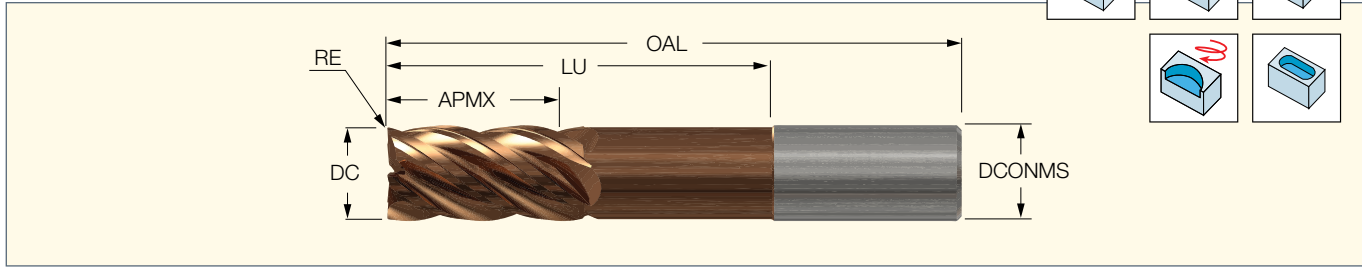
Designation	Dimensions								IC608
	DC	APMX	LU	RE	DCONMS	OAL	NOF <sup>(1)</sup>	Shank	
ECI-5 .5-.63C.09VF2.5	.500	.6250	.6250	.0900	.500	2.500	5	C	●
ECI-5 .5-.63C.125VF2.5	.500	.6250	.6250	.1250	.500	2.500	5	C	●
ECI-5 .5-.63C0VF2.5	.500	.6250	.6250	0	.500	2.500	5	C	●
ECI-5 .5-.63W.015VF2.5	.500	.6250	.6250	.0150	.500	2.500	5	W	●
ECI-5 .5-.63W.03VF2.5	.500	.6250	.6250	.0300	.500	2.500	5	W	●
ECI-5 .5-.63W.06VF2.5	.500	.6250	.6250	.0600	.500	2.500	5	W	●
ECI-5 .5-.63W.09VF2.5	.500	.6250	.6250	.0900	.500	2.500	5	W	●
ECI-5 .5-.63W.125VF2.5	.500	.6250	.6250	.1250	.500	2.500	5	W	●
ECI-5 .5-.63W0VF2.5	.500	.6250	.6250	0	.500	2.500	5	W	●
ECI-5 .5-.88/1.38C.03VF3	.500	.8750	1.3750	.0300	.500	3.000	5	C	●
ECI-5 .5-.88/1.38C.06VF3	.500	.8750	1.3750	.0600	.500	3.000	5	C	●
ECI-5 .5-.88/1.38C.09VF3	.500	.8750	1.3750	.0900	.500	3.000	5	C	●
ECI-5 .5-.88/1.38CVF3	.500	.8750	1.3750	0	.500	3.000	5	C	●
ECI-5 .5-.88/1.38W.03VF3	.500	.8750	1.3750	.0300	.500	3.000	5	W	●
ECI-5 .5-.88/1.38W.06VF3	.500	.8750	1.3750	.0600	.500	3.000	5	W	●
ECI-5 .5-.88/1.38W.09VF3	.500	.8750	1.3750	.0900	.500	3.000	5	W	●
ECI-5 .5-.88/1.38WVF3	.500	.8750	1.3750	0	.500	3.000	5	W	●
ECI-5 .5-.88/1.4C.015VF3	.500	.8750	1.3750	.0150	.500	3.000	5	C	●
ECI-5 .5-.88/1.4C.125VF3	.500	.8750	1.3750	.1250	.500	3.000	5	C	●
ECI-5 .5-.88/1.4W.015VF3	.500	.8750	1.3750	.0150	.500	3.000	5	W	●
ECI-5 .5-.88/1.4W.125VF3	.500	.8750	1.3750	.1250	.500	3.000	5	W	●
ECI-5 .5-.88/2.1C.015VF4	.500	.8750	2.1250	.0150	.500	4.000	5	C	●
ECI-5 .5-.88/2.1C.125VF4	.500	.8750	2.1250	.1250	.500	4.000	5	C	●
ECI-5 .5-.88/2.1W.015VF4	.500	.8750	2.1250	.0150	.500	4.000	5	W	●
ECI-5 .5-.88/2.1W.125VF4	.500	.8750	2.1250	.1250	.500	4.000	5	W	●
ECI-5 .5-.88/2.13C.03VF4	.500	.8750	2.1250	.0300	.500	4.000	5	C	●
ECI-5 .5-.88/2.13C.06VF4	.500	.8750	2.1250	.0600	.500	4.000	5	C	●
ECI-5 .5-.88/2.13C.09VF4	.500	.8750	2.1250	.0900	.500	4.000	5	C	●
ECI-5 .5-.88/2.13CVF4	.500	.8750	2.1250	0	.500	4.000	5	C	●
ECI-5 .5-.88/2.13W.03VF4	.500	.8750	2.1250	.0300	.500	4.000	5	W	●
ECI-5 .5-.88/2.13W.06VF4	.500	.8750	2.1250	.0600	.500	4.000	5	W	●
ECI-5 .5-.88/2.13W.09VF4	.500	.8750	2.1250	.0900	.500	4.000	5	W	●
ECI-5 .5-.88/2.13WVF4	.500	.8750	2.1250	0	.500	4.000	5	W	●
ECI-5 .5-.88/3.1C.015VF5	.500	.8750	3.1250	.0150	.500	5.000	5	C	●
ECI-5 .5-.88/3.1C.125VF5	.500	.8750	3.1250	.1250	.500	5.000	5	C	●
ECI-5 .5-.88/3.1W.015VF5	.500	.8750	3.1250	.0150	.500	5.000	5	W	●
ECI-5 .5-.88/3.1W.125VF5	.500	.8750	3.1250	.1250	.500	5.000	5	W	●
ECI-5 .5-.88/3.13C.03VF5	.500	.8750	3.1250	.0300	.500	5.000	5	C	●
ECI-5 .5-.88/3.13C.06VF5	.500	.8750	3.1250	.0600	.500	5.000	5	C	●
ECI-5 .5-.88/3.13C.09VF5	.500	.8750	3.1250	.0900	.500	5.000	5	C	●
ECI-5 .5-.88/3.13CVF5	.500	.8750	3.1250	0	.500	5.000	5	C	●
ECI-5 .5-.88/3.13W.03VF5	.500	.8750	3.1250	.0300	.500	5.000	5	W	●
ECI-5 .5-.88/3.13W.06VF5	.500	.8750	3.1250	.0600	.500	5.000	5	W	●
ECI-5 .5-.88/3.13W.09VF5	.500	.8750	3.1250	.0900	.500	5.000	5	W	●
ECI-5 .5-.88/3.13WVF5	.500	.8750	3.1250	0	.500	5.000	5	W	●
ECI-5 .5-.88/4.1C.015VF6	.500	.8750	4.1250	.0150	.500	6.000	5	C	●
ECI-5 .5-.88/4.1C.125VF6	.500	.8750	4.1250	.1250	.500	6.000	5	C	●
ECI-5 .5-.88/4.1W.015VF6	.500	.8750	4.1250	.0150	.500	6.000	5	W	●

<sup>(1)</sup> Number of flutes

• Weldon shank available upon request. Substitute a **W** in place of the **C** in the listed designations (example - ECI-4 375-1.0C03VF2.5 = cylindrical type; ECI-4 375-1.0W03VF2.5 = Weldon type)

**ECI-5-VF**

5 Flute Endmill With and Without Relieved Neck, Assorted Radii and Variable Pitch for Chatter Dampening



Designation	Dimensions								IC608
	DC	APMX	LU	RE	DCONMS	OAL	NOF <sup>(1)</sup>	Shank	
ECI-5 .5-.88/4.1W.125VF6	.500	.8750	4.1250	.1250	.500	6.000	5	W	●
ECI-5 .5-.88/4.13C.03VF6	.500	.8750	4.1250	.0300	.500	6.000	5	C	●
ECI-5 .5-.88/4.13C.06VF6	.500	.8750	4.1250	.0600	.500	6.000	5	C	●
ECI-5 .5-.88/4.13C.09VF6	.500	.8750	4.1250	.0900	.500	6.000	5	C	●
ECI-5 .5-.88/4.13C.VF6	.500	.8750	4.1250	0	.500	6.000	5	C	●
ECI-5 .5-.88/4.13W.03VF6	.500	.8750	4.1250	.0300	.500	6.000	5	W	●
ECI-5 .5-.88/4.13W.06VF6	.500	.8750	4.1250	.0600	.500	6.000	5	W	●
ECI-5 .5-.88/4.13W.09VF6	.500	.8750	4.1250	.0900	.500	6.000	5	W	●
ECI-5 .5-.88/4.13W.VF6	.500	.8750	4.1250	0	.500	6.000	5	W	●
ECI-5 .5-1.25C.010VF3	.500	1.2500	1.2500	.0100	.500	3.000	5	C	●
ECI-5 .5-1.25C.015VF3	.500	1.2500	1.2500	.0150	.500	3.000	5	C	●
ECI-5 .5-1.25C.03VF3	.500	1.2500	1.2500	.0300	.500	3.000	5	C	●
ECI-5 .5-1.25C.06VF3	.500	1.2500	1.2500	.0600	.500	3.000	5	C	●
ECI-5 .5-1.25C.09VF3	.500	1.2500	1.2500	.0900	.500	3.000	5	C	●
ECI-5 .5-1.25C.125VF3	.500	1.2500	1.2500	.1250	.500	3.000	5	C	●
ECI-5 .5-1.25C.VF3	.500	1.2500	1.2500	0	.500	3.000	5	C	●
ECI-5 .5-1.25W.015VF3	.500	1.2500	1.2500	.0150	.500	3.000	5	W	●
ECI-5 .5-1.25W.03VF3	.500	1.2500	1.2500	.0300	.500	3.000	5	W	●
ECI-5 .5-1.25W.06VF3	.500	1.2500	1.2500	.0600	.500	3.000	5	W	●
ECI-5 .5-1.25W.09VF3	.500	1.2500	1.2500	.0900	.500	3.000	5	W	●
ECI-5 .5-1.25W.125VF3	.500	1.2500	1.2500	.1250	.500	3.000	5	W	●
ECI-5 .5-1.25W.VF3	.500	1.2500	1.2500	0	.500	3.000	5	W	●
ECI-5 .5-1.63C.010VF4	.500	1.6250	1.6250	.0100	.500	4.000	5	C	●
ECI-5 .5-1.63C.015VF4	.500	1.6250	1.6250	.0150	.500	4.000	5	C	●
ECI-5 .5-1.63C.03VF4	.500	1.6250	1.6250	.0300	.500	4.000	5	C	●
ECI-5 .5-1.63C.06VF4	.500	1.6250	1.6250	.0600	.500	4.000	5	C	●
ECI-5 .5-1.63C.09VF4	.500	1.6250	1.6250	.0900	.500	4.000	5	C	●
ECI-5 .5-1.63C.125VF4	.500	1.6250	1.6250	.1250	.500	4.000	5	C	●
ECI-5 .5-1.63C.VF4	.500	1.6250	1.6250	0	.500	4.000	5	C	●
ECI-5 .5-1.63W.015VF4	.500	1.6250	1.6250	.0150	.500	4.000	5	W	●
ECI-5 .5-1.63W.03VF4	.500	1.6250	1.6250	.0300	.500	4.000	5	W	●
ECI-5 .5-1.63W.06VF4	.500	1.6250	1.6250	.0600	.500	4.000	5	W	●
ECI-5 .5-1.63W.09VF4	.500	1.6250	1.6250	.0900	.500	4.000	5	W	●
ECI-5 .5-1.63W.125VF4	.500	1.6250	1.6250	.1250	.500	4.000	5	W	●
ECI-5 .5-1.63W.VF4	.500	1.6250	1.6250	0	.500	4.000	5	W	●
ECI-5 .5-2.C.010VF4	.500	2.0000	2.0000	.0100	.500	4.000	5	C	●
ECI-5 .5-2.C.015VF4	.500	2.0000	2.0000	.0150	.500	4.000	5	C	●
ECI-5 .5-2.C.03VF4	.500	2.0000	2.0000	.0300	.500	4.000	5	C	●
ECI-5 .5-2.C.06VF4	.500	2.0000	2.0000	.0600	.500	4.000	5	C	●
ECI-5 .5-2.C.09VF4	.500	2.0000	2.0000	.0900	.500	4.000	5	C	●
ECI-5 .5-2.C.125VF4	.500	2.0000	2.0000	.1250	.500	4.000	5	C	●
ECI-5 .5-2.C.VF4	.500	2.0000	2.0000	0	.500	4.000	5	C	●
ECI-5 .5-2.W.015VF4	.500	2.0000	2.0000	.0150	.500	4.000	5	W	●
ECI-5 .5-2.W.03VF4	.500	2.0000	2.0000	.0300	.500	4.000	5	W	●
ECI-5 .5-2.W.06VF4	.500	2.0000	2.0000	.0600	.500	4.000	5	W	●
ECI-5 .5-2.W.09VF4	.500	2.0000	2.0000	.0900	.500	4.000	5	W	●
ECI-5 .5-2.W.125VF4	.500	2.0000	2.0000	.1250	.500	4.000	5	W	●
ECI-5 .5-2.W.VF4	.500	2.0000	2.0000	0	.500	4.000	5	W	●

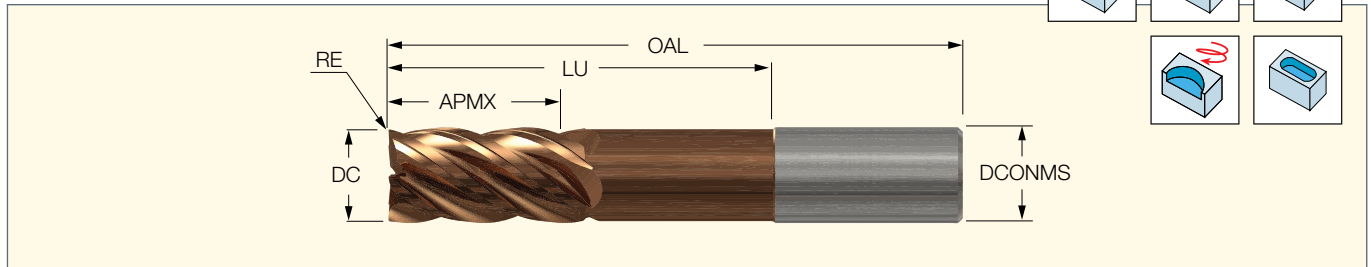
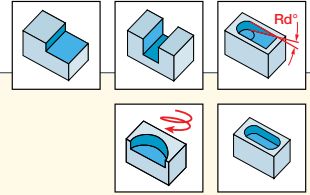
<sup>(1)</sup> Number of flutes

• Weldon shank available upon request. Substitute a **W** in place of the **C** in the listed designations (example - ECI-4 375-1.0C03VF2.5 = cylindrical type; ECI-4 375-1.0W03VF2.5 = Weldon type)



**ECI-5-VF** Continued

5 Flute Endmill With and Without Relieved Neck, Assorted Radii and Variable Pitch for Chatter Dampening



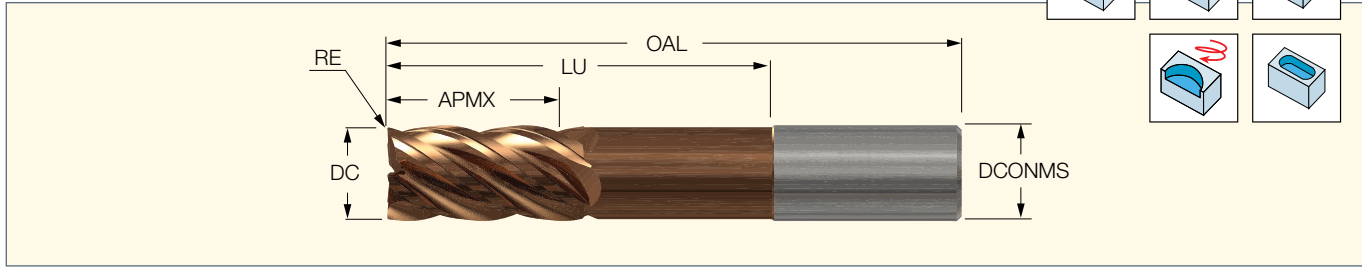
Designation	Dimensions								IC608
	DC	APMX	LU	RE	DCONMS	OAL	NOF <sup>(1)</sup>	Shank	
ECI-5 .5-2.5C.015VF5	.500	2.5000	2.5000	.0150	.500	5.000	5	C	●
ECI-5 .5-2.5C.03VF5	.500	2.5000	2.5000	.0300	.500	5.000	5	C	●
ECI-5 .5-2.5C.06VF5	.500	2.5000	2.5000	.0600	.500	5.000	5	C	●
ECI-5 .5-2.5C.09VF5	.500	2.5000	2.5000	.0900	.500	5.000	5	C	●
ECI-5 .5-2.5C.125VF5	.500	2.5000	2.5000	.1250	.500	5.000	5	C	●
ECI-5 .5-2.5C0VF5	.500	2.5000	2.5000	0	.500	5.000	5	C	●
ECI-5 .5-2.5W.015VF5	.500	2.5000	2.5000	.0150	.500	5.000	5	W	●
ECI-5 .5-2.5W.03VF5	.500	2.5000	2.5000	.0300	.500	5.000	5	W	●
ECI-5 .5-2.5W.06VF5	.500	2.5000	2.5000	.0600	.500	5.000	5	W	●
ECI-5 .5-2.5W.09VF5	.500	2.5000	2.5000	.0900	.500	5.000	5	W	●
ECI-5 .5-2.5W.125VF5	.500	2.5000	2.5000	.1250	.500	5.000	5	W	●
ECI-5 .5-2.5W0VF5	.500	2.5000	2.5000	0	.500	5.000	5	W	●
ECI-5 .5-3.13C.015VF6	.500	3.1250	3.1250	.0150	.500	6.000	5	C	●
ECI-5 .5-3.13C.03VF6	.500	3.1250	3.1250	.0300	.500	6.000	5	C	●
ECI-5 .5-3.13C.06VF6	.500	3.1250	3.1250	.0600	.500	6.000	5	C	●
ECI-5 .5-3.13C.09VF6	.500	3.1250	3.1250	.0900	.500	6.000	5	C	●
ECI-5 .5-3.13C.125VF6	.500	3.1250	3.1250	.1250	.500	6.000	5	C	●
ECI-5 .5-3.13C0VF6	.500	3.1250	3.1250	0	.500	6.000	5	C	●
ECI-5 .5-3.13W.015VF6	.500	3.1250	3.1250	.0150	.500	6.000	5	W	●
ECI-5 .5-3.13W.03VF6	.500	3.1250	3.1250	.0300	.500	6.000	5	W	●
ECI-5 .5-3.13W.06VF6	.500	3.1250	3.1250	.0600	.500	6.000	5	W	●
ECI-5 .5-3.13W.09VF6	.500	3.1250	3.1250	.0900	.500	6.000	5	W	●
ECI-5 .5-3.13W.125VF6	.500	3.1250	3.1250	.1250	.500	6.000	5	W	●
ECI-5 .5-3.13W0VF6	.500	3.1250	3.1250	0	.500	6.000	5	W	●
ECI-5 .625-.75C.010VF3	.625	.7500	.7500	.0100	.625	3.000	5	C	●
ECI-5 .625-.75C.015VF3	.625	.7500	.7500	.0150	.625	3.000	5	C	●
ECI-5 .625-.75C.03VF3	.625	.7500	.7500	.0300	.625	3.000	5	C	●
ECI-5 .625-.75C.06VF3	.625	.7500	.7500	.0600	.625	3.000	5	C	●
ECI-5 .625-.75C.09VF3	.625	.7500	.7500	.0900	.625	3.000	5	C	●
ECI-5 .625-.75C.125VF3	.625	.7500	.7500	.1250	.625	3.000	5	C	●
ECI-5 .625-.75C0VF3	.625	.7500	.7500	0	.625	3.000	5	C	●
ECI-5 .625-.75W.015VF3	.625	.7500	.7500	.0150	.625	3.000	5	W	●
ECI-5 .625-.75W.03VF3	.625	.7500	.7500	.0300	.625	3.000	5	W	●
ECI-5 .625-.75W.06VF3	.625	.7500	.7500	.0600	.625	3.000	5	W	●
ECI-5 .625-.75W.09VF3	.625	.7500	.7500	.0900	.625	3.000	5	W	●
ECI-5 .625-.75W.125VF3	.625	.7500	.7500	.1250	.625	3.000	5	W	●
ECI-5 .625-.75W0VF3	.625	.7500	.7500	0	.625	3.000	5	W	●
ECI-5 .625-1./2.C.015VF4	.625	1.0000	2.0000	.0150	.625	4.000	5	C	●
ECI-5 .625-1./2.C.03VF4	.625	1.0000	2.0000	.0300	.625	4.000	5	C	●
ECI-5 .625-1./2.C.06VF4	.625	1.0000	2.0000	.0600	.625	4.000	5	C	●
ECI-5 .625-1./2.C.09VF4	.625	1.0000	2.0000	.0900	.625	4.000	5	C	●
ECI-5 .625-1./2.C.125VF4	.625	1.0000	2.0000	.1250	.625	4.000	5	C	●
ECI-5 .625-1./2.CV4	.625	1.0000	2.0000	0	.625	4.000	5	C	●
ECI-5 .625-1./2.W.015VF4	.625	1.0000	2.0000	.0150	.625	4.000	5	W	●
ECI-5 .625-1./2.W.03VF4	.625	1.0000	2.0000	.0300	.625	4.000	5	W	●
ECI-5 .625-1./2.W.06VF4	.625	1.0000	2.0000	.0600	.625	4.000	5	W	●
ECI-5 .625-1./2.W.09VF4	.625	1.0000	2.0000	.0900	.625	4.000	5	W	●
ECI-5 .625-1./2.W.125VF4	.625	1.0000	2.0000	.1250	.625	4.000	5	W	●

<sup>(1)</sup> Number of flutes

• Weldon shank available upon request. Substitute a **W** in place of the **C** in the listed designations (example - ECI-4 375-1.0C03VF2.5 = cylindrical type; ECI-4 375-1.0W03VF2.5 = Weldon type)

**ECI-5-VF**

5 Flute Endmill With and Without Relieved Neck, Assorted Radii and Variable Pitch for Chatter Dampening



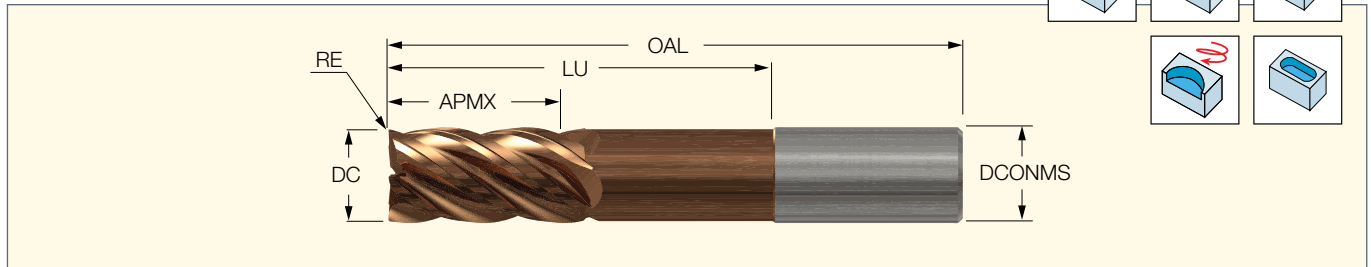
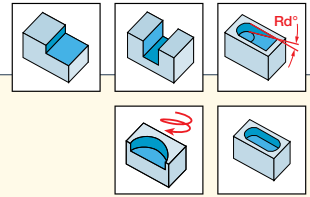
Designation	Dimensions								IC608
	DC	APMX	LU	RE	DCONMS	OAL	NOF <sup>(1)</sup>	Shank	
ECI-5 .625-1./2.WVF4	.625	1.0000	2.0000	0	.625	4.000	5	W	●
ECI-5 .625-1./3.C.015VF5	.625	1.0000	3.0000	.0150	.625	5.000	5	C	●
ECI-5 .625-1./3.C.03VF5	.625	1.0000	3.0000	.0300	.625	5.000	5	C	●
ECI-5 .625-1./3.C.06VF5	.625	1.0000	3.0000	.0600	.625	5.000	5	C	●
ECI-5 .625-1./3.C.09VF5	.625	1.0000	3.0000	.0900	.625	5.000	5	C	●
ECI-5 .625-1./3.C.125VF5	.625	1.0000	3.0000	.1250	.625	5.000	5	C	●
ECI-5 .625-1./3.CVF5	.625	1.0000	3.0000	0	.625	5.000	5	C	●
ECI-5 .625-1./3.W.015VF5	.625	1.0000	3.0000	.0150	.625	5.000	5	W	●
ECI-5 .625-1./3.W.03VF5	.625	1.0000	3.0000	.0300	.625	5.000	5	W	●
ECI-5 .625-1./3.W.06VF5	.625	1.0000	3.0000	.0600	.625	5.000	5	W	●
ECI-5 .625-1./3.W.09VF5	.625	1.0000	3.0000	.0900	.625	5.000	5	W	●
ECI-5 .625-1./3.W.125VF5	.625	1.0000	3.0000	.1250	.625	5.000	5	W	●
ECI-5 .625-1./3.WVF5	.625	1.0000	3.0000	0	.625	5.000	5	W	●
ECI-5 .625-1./4.C.015VF6	.625	1.0000	4.0000	.0150	.625	6.000	5	C	●
ECI-5 .625-1./4.C.03VF6	.625	1.0000	4.0000	.0300	.625	6.000	5	C	●
ECI-5 .625-1./4.C.06VF6	.625	1.0000	4.0000	.0600	.625	6.000	5	C	●
ECI-5 .625-1./4.C.09VF6	.625	1.0000	4.0000	.0900	.625	6.000	5	C	●
ECI-5 .625-1./4.C.125VF6	.625	1.0000	4.0000	.1250	.625	6.000	5	C	●
ECI-5 .625-1./4.CVF6	.625	1.0000	4.0000	0	.625	6.000	5	C	●
ECI-5 .625-1./4.W.015VF6	.625	1.0000	4.0000	.0150	.625	6.000	5	W	●
ECI-5 .625-1./4.W.03VF6	.625	1.0000	4.0000	.0300	.625	6.000	5	W	●
ECI-5 .625-1./4.W.06VF6	.625	1.0000	4.0000	.0600	.625	6.000	5	W	●
ECI-5 .625-1./4.W.09VF6	.625	1.0000	4.0000	.0900	.625	6.000	5	W	●
ECI-5 .625-1./4.W.125VF6	.625	1.0000	4.0000	.1250	.625	6.000	5	W	●
ECI-5 .625-1./4.WVF6	.625	1.0000	4.0000	0	.625	6.000	5	W	●
ECI-5 .625-1.63C.010VF3.5	.625	1.6250	1.6250	.0100	.625	3.500	5	C	●
ECI-5 .625-1.63C.015VF3.5	.625	1.6250	1.6250	.0150	.625	3.500	5	C	●
ECI-5 .625-1.63C.03VF3.5	.625	1.6250	1.6250	.0300	.625	3.500	5	C	●
ECI-5 .625-1.63C.06VF3.5	.625	1.6250	1.6250	.0600	.625	3.500	5	C	●
ECI-5 .625-1.63C.09VF3.5	.625	1.6250	1.6250	.0900	.625	3.500	5	C	●
ECI-5 .625-1.63C.125VF3.5	.625	1.6250	1.6250	.1250	.625	3.500	5	C	●
ECI-5 .625-1.63C0VF3.5	.625	1.6250	1.6250	0	.625	3.500	5	C	●
ECI-5 .625-1.63W.015VF3.5	.625	1.6250	1.6250	.0150	.625	3.500	5	W	●
ECI-5 .625-1.63W.03VF3.5	.625	1.6250	1.6250	.0300	.625	3.500	5	W	●
ECI-5 .625-1.63W.06VF3.5	.625	1.6250	1.6250	.0600	.625	3.500	5	W	●
ECI-5 .625-1.63W.09VF3.5	.625	1.6250	1.6250	.0900	.625	3.500	5	W	●
ECI-5 .625-1.63W.125VF3.5	.625	1.6250	1.6250	.1250	.625	3.500	5	W	●
ECI-5 .625-1.63W0VF3.5	.625	1.6250	1.6250	0	.625	3.500	5	W	●
ECI-5 .625-2.5C.015VF5	.625	2.5000	2.5000	.0150	.625	5.000	5	C	●
ECI-5 .625-2.5C.03VF5	.625	2.5000	2.5000	.0300	.625	5.000	5	C	●
ECI-5 .625-2.5C.06VF5	.625	2.5000	2.5000	.0600	.625	5.000	5	C	●
ECI-5 .625-2.5C.09VF5	.625	2.5000	2.5000	.0900	.625	5.000	5	C	●
ECI-5 .625-2.5C.125VF5	.625	2.5000	2.5000	.1250	.625	5.000	5	C	●
ECI-5 .625-2.5C0VF5	.625	2.5000	2.5000	0	.625	5.000	5	C	●
ECI-5 .625-2.5W.015VF5	.625	2.5000	2.5000	.0150	.625	5.000	5	W	●
ECI-5 .625-2.5W.03VF5	.625	2.5000	2.5000	.0300	.625	5.000	5	W	●
ECI-5 .625-2.5W.06VF5	.625	2.5000	2.5000	.0600	.625	5.000	5	W	●
ECI-5 .625-2.5W.09VF5	.625	2.5000	2.5000	.0900	.625	5.000	5	W	●

<sup>(1)</sup> Number of flutes

• Weldon shank available upon request. Substitute a **W** in place of the **C** in the listed designations (example - ECI-4 375-1.0C03VF2.5 = cylindrical type; ECI-4 375-1.0W03VF2.5 = Weldon type)

**ECI-5-VF** Continued

5 Flute Endmill With and Without Relieved Neck, Assorted Radii and Variable Pitch for Chatter Dampening



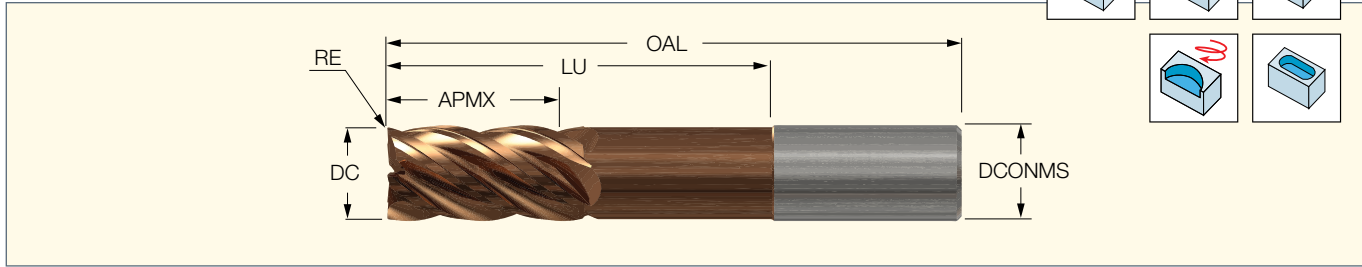
Designation	Dimensions								IC608
	DC	APMX	LU	RE	DCONMS	OAL	NOF <sup>(1)</sup>	Shank	
ECI-5 .625-2.5W.125VF5	.625	2.5000	2.5000	.1250	.625	5.000	5	W	●
ECI-5 .625-2.5W0VF5	.625	2.5000	2.5000	0	.625	5.000	5	W	●
ECI-5 .625-3.C.015VF6	.625	3.0000	3.0000	.0150	.625	6.000	5	C	●
ECI-5 .625-3.C.03VF6	.625	3.0000	3.0000	.0300	.625	6.000	5	C	●
ECI-5 .625-3.C.06VF6	.625	3.0000	3.0000	.0600	.625	6.000	5	C	●
ECI-5 .625-3.C.09VF6	.625	3.0000	3.0000	.0900	.625	6.000	5	C	●
ECI-5 .625-3.C.125VF6	.625	3.0000	3.0000	.1250	.625	6.000	5	C	●
ECI-5 .625-3.C0VF6	.625	3.0000	3.0000	0	.625	6.000	5	C	●
ECI-5 .625-3.W.015VF6	.625	3.0000	3.0000	.0150	.625	6.000	5	W	●
ECI-5 .625-3.W.03VF6	.625	3.0000	3.0000	.0300	.625	6.000	5	W	●
ECI-5 .625-3.W.06VF6	.625	3.0000	3.0000	.0600	.625	6.000	5	W	●
ECI-5 .625-3.W.09VF6	.625	3.0000	3.0000	.0900	.625	6.000	5	W	●
ECI-5 .625-3.W.125VF6	.625	3.0000	3.0000	.1250	.625	6.000	5	W	●
ECI-5 .625-3.W0VF6	.625	3.0000	3.0000	0	.625	6.000	5	W	●
ECI-5 .75-1.C.010VF3	.750	1.0000	1.0000	.0100	.750	3.000	5	C	●
ECI-5 .75-1.C.015VF3	.750	1.0000	1.0000	.0150	.750	3.000	5	C	●
ECI-5 .75-1.C.03VF3	.750	1.0000	1.0000	.0300	.750	3.000	5	C	●
ECI-5 .75-1.C.06VF3	.750	1.0000	1.0000	.0600	.750	3.000	5	C	●
ECI-5 .75-1.C.09VF3	.750	1.0000	1.0000	.0900	.750	3.000	5	C	●
ECI-5 .75-1.C.125VF3	.750	1.0000	1.0000	.1250	.750	3.000	5	C	●
ECI-5 .75-1.C0VF3	.750	1.0000	1.0000	0	.750	3.000	5	C	●
ECI-5 .75-1.W.015VF3	.750	1.0000	1.0000	.0150	.750	3.000	5	W	●
ECI-5 .75-1.W.03VF3	.750	1.0000	1.0000	.0300	.750	3.000	5	W	●
ECI-5 .75-1.W.06VF3	.750	1.0000	1.0000	.0600	.750	3.000	5	W	●
ECI-5 .75-1.W.09VF3	.750	1.0000	1.0000	.0900	.750	3.000	5	W	●
ECI-5 .75-1.W.125VF3	.750	1.0000	1.0000	.1250	.750	3.000	5	W	●
ECI-5 .75-1.W0VF3	.750	1.0000	1.0000	0	.750	3.000	5	W	●
ECI-5 .75-1.25/2.C.03VF4	.750	1.2500	2.0000	.0300	.750	4.000	5	C	●
ECI-5 .75-1.25/2.C.06VF4	.750	1.2500	2.0000	.0600	.750	4.000	5	C	●
ECI-5 .75-1.25/2.C.09VF4	.750	1.2500	2.0000	.0900	.750	4.000	5	C	●
ECI-5 .75-1.25/2.CVF4	.750	1.2500	2.0000	0	.750	4.000	5	C	●
ECI-5 .75-1.25/2.W.03VF4	.750	1.2500	2.0000	.0300	.750	4.000	5	W	●
ECI-5 .75-1.25/2.W.06VF4	.750	1.2500	2.0000	.0600	.750	4.000	5	W	●
ECI-5 .75-1.25/2.W.09VF4	.750	1.2500	2.0000	.0900	.750	4.000	5	W	●
ECI-5 .75-1.25/2.WVF4	.750	1.2500	2.0000	0	.750	4.000	5	W	●
ECI-5 .75-1.25/3.C.03VF5	.750	1.2500	3.0000	.0300	.750	5.000	5	C	●
ECI-5 .75-1.25/3.C.06VF5	.750	1.2500	3.0000	.0600	.750	5.000	5	C	●
ECI-5 .75-1.25/3.C.09VF5	.750	1.2500	3.0000	.0900	.750	5.000	5	C	●
ECI-5 .75-1.25/3.CVF5	.750	1.2500	3.0000	0	.750	5.000	5	C	●
ECI-5 .75-1.25/3.W.03VF5	.750	1.2500	3.0000	.0300	.750	5.000	5	W	●
ECI-5 .75-1.25/3.W.06VF5	.750	1.2500	3.0000	.0600	.750	5.000	5	W	●
ECI-5 .75-1.25/3.W.09VF5	.750	1.2500	3.0000	.0900	.750	5.000	5	W	●
ECI-5 .75-1.25/3.WVF5	.750	1.2500	3.0000	0	.750	5.000	5	W	●
ECI-5 .75-1.25/4.C.03VF6	.750	1.2500	4.0000	.0300	.750	6.000	5	C	●
ECI-5 .75-1.25/4.C.06VF6	.750	1.2500	4.0000	.0600	.750	6.000	5	C	●
ECI-5 .75-1.25/4.C.09VF6	.750	1.2500	4.0000	.0900	.750	6.000	5	C	●
ECI-5 .75-1.25/4.CVF6	.750	1.2500	4.0000	0	.750	6.000	5	C	●
ECI-5 .75-1.25/4.W.03VF6	.750	1.2500	4.0000	.0300	.750	6.000	5	W	●

<sup>(1)</sup> Number of flutes

• Weldon shank available upon request. Substitute a **W** in place of the **C** in the listed designations (example - ECI-4 375-1.0C03VF2.5 = cylindrical type; ECI-4 375-1.0W03VF2.5 = Weldon type)

**ECI-5-VF** Continued

5 Flute Endmill With and Without Relieved Neck, Assorted Radii and Variable Pitch for Chatter Dampening



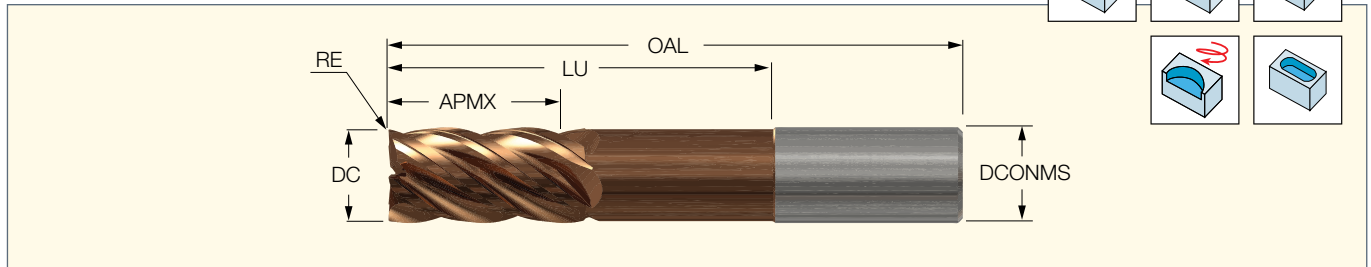
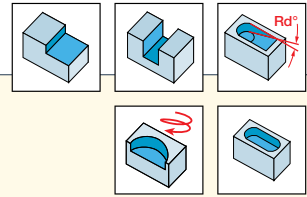
Designation	Dimensions								IC608
	DC	APMX	LU	RE	DCONMS	OAL	NOF <sup>(1)</sup>	Shank	
ECI-5 .75-1.25/4.W.06VF6	.750	1.2500	4.0000	.0600	.750	6.000	5	W	●
ECI-5 .75-1.25/4.W.09VF6	.750	1.2500	4.0000	.0900	.750	6.000	5	W	●
ECI-5 .75-1.25/4.WVF6	.750	1.2500	4.0000	0	.750	6.000	5	W	●
ECI-5 .75-1.3/2.C.010VF4	.750	1.2500	2.0000	.0100	.750	4.000	5	C	●
ECI-5 .75-1.3/2.C.015VF4	.750	1.2500	2.0000	.0150	.750	4.000	5	C	●
ECI-5 .75-1.3/2.C.125VF4	.750	1.2500	2.0000	.1250	.750	4.000	5	C	●
ECI-5 .75-1.3/2.W.015VF4	.750	1.2500	2.0000	.0150	.750	4.000	5	W	●
ECI-5 .75-1.3/2.W.125VF4	.750	1.2500	2.0000	.1250	.750	4.000	5	W	●
ECI-5 .75-1.3/3.C.015VF5	.750	1.2500	3.0000	.0150	.750	5.000	5	C	●
ECI-5 .75-1.3/3.C.125VF5	.750	1.2500	3.0000	.1250	.750	5.000	5	C	●
ECI-5 .75-1.3/3.W.015VF5	.750	1.2500	3.0000	.0150	.750	5.000	5	W	●
ECI-5 .75-1.3/3.W.125VF5	.750	1.2500	3.0000	.1250	.750	5.000	5	W	●
ECI-5 .75-1.3/4.C.015VF6	.750	1.2500	4.0000	.0150	.750	6.000	5	C	●
ECI-5 .75-1.3/4.C.125VF6	.750	1.2500	4.0000	.1250	.750	6.000	5	C	●
ECI-5 .75-1.3/4.W.015VF6	.750	1.2500	4.0000	.0150	.750	6.000	5	W	●
ECI-5 .75-1.3/4.W.125VF6	.750	1.2500	4.0000	.1250	.750	6.000	5	W	●
ECI-H5 .75-1.63C.09VF3.5	.750	1.6250	1.6250	.0900	.750	4.000	5	C	●
ECI-5 .75-1.63C.010VF4	.750	1.6250	1.6250	.0100	.750	4.000	5	C	●
ECI-5 .75-1.63C.015VF4	.750	1.6250	1.6250	.0150	.750	4.000	5	C	●
ECI-5 .75-1.63C.03VF4	.750	1.6250	1.6250	.0300	.750	4.000	5	C	●
ECI-5 .75-1.63C.06VF4	.750	1.6250	1.6250	.0600	.750	4.000	5	C	●
ECI-5 .75-1.63C.125VF4	.750	1.6250	1.6250	.1250	.750	4.000	5	C	●
ECI-5 .75-1.63C0VF4	.750	1.6250	1.6250	0	.750	4.000	5	C	●
ECI-5 .75-1.63W.015VF4	.750	1.6250	1.6250	.0150	.750	4.000	5	W	●
ECI-5 .75-1.63W.03VF4	.750	1.6250	1.6250	.0300	.750	4.000	5	W	●
ECI-5 .75-1.63W.06VF4	.750	1.6250	1.6250	.0600	.750	4.000	5	W	●
ECI-5 .75-1.63W.09VF4	.750	1.6250	1.6250	.0900	.750	4.000	5	W	●
ECI-5 .75-1.63W.125VF4	.750	1.6250	1.6250	.1250	.750	4.000	5	W	●
ECI-5 .75-1.63W0VF4	.750	1.6250	1.6250	0	.750	4.000	5	W	●
ECI-5 .75-2.25C.010VF5	.750	2.2500	2.2500	.0100	.750	5.000	5	C	●
ECI-5 .75-2.25C.015VF5	.750	2.2500	2.2500	.0150	.750	5.000	5	C	●
ECI-5 .75-2.25C.03VF5	.750	2.2500	2.2500	.0300	.750	5.000	5	C	●
ECI-5 .75-2.25C.06VF5	.750	2.2500	2.2500	.0600	.750	5.000	5	C	●
ECI-5 .75-2.25C.09VF5	.750	2.2500	2.2500	.0900	.750	5.000	5	C	●
ECI-5 .75-2.25C.125VF5	.750	2.2500	2.2500	.1250	.750	5.000	5	C	●
ECI-5 .75-2.25C0VF5	.750	2.2500	2.2500	0	.750	5.000	5	C	●
ECI-5 .75-2.25W.015VF5	.750	2.2500	2.2500	.0150	.750	5.000	5	W	●
ECI-5 .75-2.25W.03VF5	.750	2.2500	2.2500	.0300	.750	5.000	5	W	●
ECI-5 .75-2.25W.06VF5	.750	2.2500	2.2500	.0600	.750	5.000	5	W	●
ECI-5 .75-2.25W.09VF5	.750	2.2500	2.2500	.0900	.750	5.000	5	W	●
ECI-5 .75-2.25W.125VF5	.750	2.2500	2.2500	.1250	.750	5.000	5	W	●
ECI-5 .75-2.25W0VF5	.750	2.2500	2.2500	0	.750	5.000	5	W	●
ECI-5 .75-3.25C.015VF6	.750	3.2500	3.2500	.0150	.750	6.000	5	C	●
ECI-5 .75-3.25C.03VF6	.750	3.2500	3.2500	.0300	.750	6.000	5	C	●
ECI-5 .75-3.25C.06VF6	.750	3.2500	3.2500	.0600	.750	6.000	5	C	●
ECI-5 .75-3.25C.09VF6	.750	3.2500	3.2500	.0900	.750	6.000	5	C	●
ECI-5 .75-3.25C.125VF6	.750	3.2500	3.2500	.1250	.750	6.000	5	C	●
ECI-5 .75-3.25C0VF6	.750	3.2500	3.2500	0	.750	6.000	5	C	●

<sup>(1)</sup> Number of flutes

• Weldon shank available upon request. Substitute a **W** in place of the **C** in the listed designations (example - ECI-4 375-1.0C03VF2.5 = cylindrical type; ECI-4 375-1.0W03VF2.5 = Weldon type)

**ECI-5-VF** Continued

5 Flute Endmill With and Without Relieved Neck, Assorted Radii and Variable Pitch for Chatter Dampening



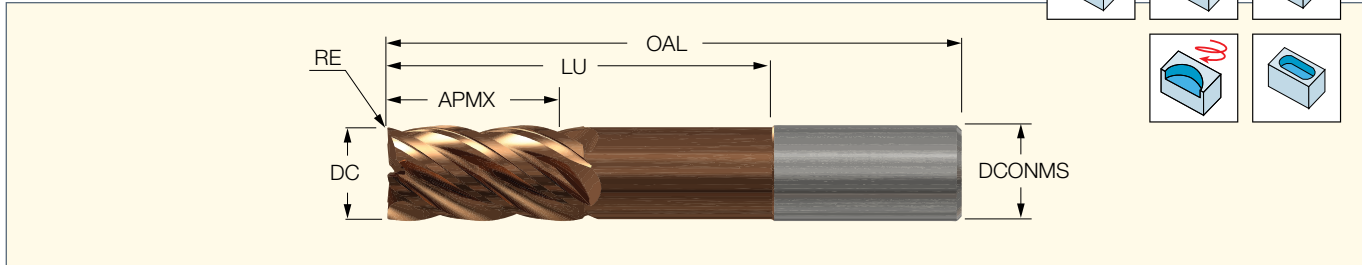
Designation	Dimensions								IC608
	DC	APMX	LU	RE	DCONMS	OAL	NOF <sup>(1)</sup>	Shank	
ECI-5 .75-3.25W.015VF6	.750	3.2500	3.2500	.0150	.750	6.000	5	W	●
ECI-5 .75-3.25W.03VF6	.750	3.2500	3.2500	.0300	.750	6.000	5	W	●
ECI-5 .75-3.25W.06VF6	.750	3.2500	3.2500	.0600	.750	6.000	5	W	●
ECI-5 .75-3.25W.09VF6	.750	3.2500	3.2500	.0900	.750	6.000	5	W	●
ECI-5 .75-3.25W.125VF6	.750	3.2500	3.2500	.1250	.750	6.000	5	W	●
ECI-5 .75-3.25W0VF6	.750	3.2500	3.2500	0	.750	6.000	5	W	●
ECI-5 .75-4.13C.015VF7	.750	4.1250	4.1250	.0150	.750	7.000	5	C	●
ECI-5 .75-4.13C.03VF7	.750	4.1250	4.1250	.0300	.750	7.000	5	C	●
ECI-5 .75-4.13C.06VF7	.750	4.1250	4.1250	.0600	.750	7.000	5	C	●
ECI-5 .75-4.13C.09VF7	.750	4.1250	4.1250	.0900	.750	7.000	5	C	●
ECI-5 .75-4.13C.125VF7	.750	4.1250	4.1250	.1250	.750	7.000	5	C	●
ECI-5 .75-4.13C0VF7	.750	4.1250	4.1250	.0150	.750	7.000	5	C	●
ECI-5 .75-4.13W.015VF7	.750	4.1250	4.1250	.0150	.750	7.000	5	W	●
ECI-5 .75-4.13W.03VF7	.750	4.1250	4.1250	.0300	.750	7.000	5	W	●
ECI-5 .75-4.13W.06VF7	.750	4.1250	4.1250	.0600	.750	7.000	5	W	●
ECI-5 .75-4.13W.09VF7	.750	4.1250	4.1250	.0900	.750	7.000	5	W	●
ECI-5 .75-4.13W.125VF7	.750	4.1250	4.1250	.1250	.750	7.000	5	W	●
ECI-5 .75-4.13W0VF7	.750	4.1250	4.1250	0	.750	7.000	5	W	●
ECI-5 1.-1.5/3.C.015VF5	1.000	1.5000	3.0000	.0150	1.000	5.000	5	C	●
ECI-5 1.-1.5/3.C.03VF5	1.000	1.5000	3.0000	.0300	1.000	5.000	5	C	●
ECI-5 1.-1.5/3.C.06VF5	1.000	1.5000	3.0000	.0600	1.000	5.000	5	C	●
ECI-5 1.-1.5/3.C.09VF5	1.000	1.5000	3.0000	.0900	1.000	5.000	5	C	●
ECI-5 1.-1.5/3.C.125VF5	1.000	1.5000	3.0000	.1250	1.000	5.000	5	C	●
ECI-5 1.-1.5/3.CVF5	1.000	1.5000	3.0000	0	1.000	5.000	5	C	●
ECI-5 1.-1.5/3.W.015VF5	1.000	1.5000	3.0000	.0150	1.000	5.000	5	W	●
ECI-5 1.-1.5/3.W.03VF5	1.000	1.5000	3.0000	.0300	1.000	5.000	5	W	●
ECI-5 1.-1.5/3.W.06VF5	1.000	1.5000	3.0000	.0600	1.000	5.000	5	W	●
ECI-5 1.-1.5/3.W.09VF5	1.000	1.5000	3.0000	.0900	1.000	5.000	5	W	●
ECI-5 1.-1.5/3.W.125VF5	1.000	1.5000	3.0000	.1250	1.000	5.000	5	W	●
ECI-5 1.-1.5/3.WVF5	1.000	1.5000	3.0000	0	1.000	5.000	5	W	●
ECI-5 1.-1.5/4.C.015VF6	1.000	1.5000	4.0000	.0150	1.000	6.000	5	C	●
ECI-5 1.-1.5/4.C.03VF6	1.000	1.5000	4.0000	.0300	1.000	6.000	5	C	●
ECI-5 1.-1.5/4.C.06VF6	1.000	1.5000	4.0000	.0600	1.000	6.000	5	C	●
ECI-5 1.-1.5/4.C.09VF6	1.000	1.5000	4.0000	.0900	1.000	6.000	5	C	●
ECI-5 1.-1.5/4.C.125VF6	1.000	1.5000	4.0000	.1250	1.000	6.000	5	C	●
ECI-5 1.-1.5/4.CVF6	1.000	1.5000	4.0000	0	1.000	6.000	5	C	●
ECI-5 1.-1.5/4.W.015VF6	1.000	1.5000	4.0000	.0150	1.000	6.000	5	W	●
ECI-5 1.-1.5/4.W.03VF6	1.000	1.5000	4.0000	.0300	1.000	6.000	5	W	●
ECI-5 1.-1.5/4.W.06VF6	1.000	1.5000	4.0000	.0600	1.000	6.000	5	W	●
ECI-5 1.-1.5/4.W.09VF6	1.000	1.5000	4.0000	.0900	1.000	6.000	5	W	●
ECI-5 1.-1.5/4.W.125VF6	1.000	1.5000	4.0000	.1250	1.000	6.000	5	W	●
ECI-5 1.-1.5/4.WVF6	1.000	1.5000	4.0000	0	1.000	6.000	5	W	●
ECI-5 1.-1.5/5.C.015VF7	1.000	1.5000	5.0000	.0150	1.000	7.000	5	C	●
ECI-5 1.-1.5/5.C.03VF7	1.000	1.5000	5.0000	.0300	1.000	7.000	5	C	●
ECI-5 1.-1.5/5.C.06VF7	1.000	1.5000	5.0000	.0600	1.000	7.000	5	C	●
ECI-5 1.-1.5/5.C.09VF7	1.000	1.5000	5.0000	.0900	1.000	7.000	5	C	●
ECI-5 1.-1.5/5.C.125VF7	1.000	1.5000	5.0000	.1250	1.000	7.000	5	C	●
ECI-5 1.-1.5/5.CVF7	1.000	1.5000	5.0000	0	1.000	7.000	5	C	●

<sup>(1)</sup> Number of flutes

• Weldon shank available upon request. Substitute a **W** in place of the **C** in the listed designations (example - ECI-4 375-1.0C03VF2.5 = cylindrical type; ECI-4 375-1.0W03VF2.5 = Weldon type)

**ECI-5-VF** Continued

5 Flute Endmill With and Without Relieved Neck, Assorted Radii and Variable Pitch for Chatter Dampening



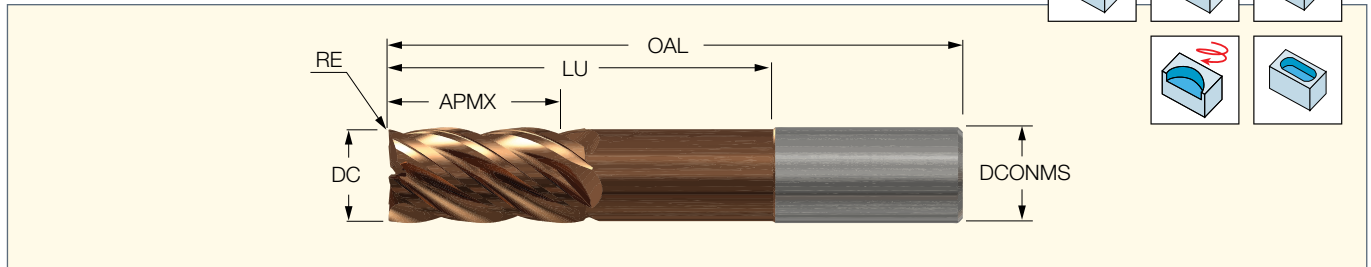
Designation	Dimensions								IC608
	DC	APMX	LU	RE	DCONMS	OAL	NOF <sup>(1)</sup>	Shank	
ECI-5 1.-1.5/5.W.015VF7	1.000	1.5000	5.0000	.0150	1.000	7.000	5	W	●
ECI-5 1.-1.5/5.W.03VF7	1.000	1.5000	5.0000	.0300	1.000	7.000	5	W	●
ECI-5 1.-1.5/5.W.06VF7	1.000	1.5000	5.0000	.0600	1.000	7.000	5	W	●
ECI-5 1.-1.5/5.W.09VF7	1.000	1.5000	5.0000	.0900	1.000	7.000	5	W	●
ECI-5 1.-1.5/5.W.125VF7	1.000	1.5000	5.0000	.1250	1.000	7.000	5	W	●
ECI-5 1.-1.5/5.WVF7	1.000	1.5000	5.0000	0	1.000	7.000	5	W	●
ECI-5 1.-1.5C.015VF4	1.000	1.5000	1.5000	.0150	1.000	4.000	5	C	●
ECI-5 1.-1.5C.03VF4	1.000	1.5000	1.5000	.0300	1.000	4.000	5	C	●
ECI-5 1.-1.5C.06VF4	1.000	1.5000	1.5000	.0600	1.000	4.000	5	C	●
ECI-5 1.-1.5C.09VF4	1.000	1.5000	1.5000	.0900	1.000	4.000	5	C	●
ECI-5 1.-1.5C.125VF4	1.000	1.5000	1.5000	.1250	1.000	4.000	5	C	●
ECI-5 1.-1.5C0VF4	1.000	1.5000	1.5000	0	1.000	4.000	5	C	●
ECI-5 1.-1.5W.015VF4	1.000	1.5000	1.5000	.0150	1.000	4.000	5	W	●
ECI-5 1.-1.5W.03VF4	1.000	1.5000	1.5000	.0300	1.000	4.000	5	W	●
ECI-5 1.-1.5W.06VF4	1.000	1.5000	1.5000	.0600	1.000	4.000	5	W	●
ECI-5 1.-1.5W.09VF4	1.000	1.5000	1.5000	.0900	1.000	4.000	5	W	●
ECI-5 1.-1.5W.125VF4	1.000	1.5000	1.5000	.1250	1.000	4.000	5	W	●
ECI-5 1.-1.5W0VF4	1.000	1.5000	1.5000	0	1.000	4.000	5	W	●
ECI-5 1.-2.C.015VF4.5	1.000	2.0000	2.0000	.0150	1.000	4.500	5	C	●
ECI-5 1.-2.C.03VF4.5	1.000	2.0000	2.0000	.0300	1.000	4.500	5	C	●
ECI-5 1.-2.C.06VF4.5	1.000	2.0000	2.0000	.0600	1.000	4.500	5	C	●
ECI-5 1.-2.C.09VF4.5	1.000	2.0000	2.0000	.0900	1.000	4.500	5	C	●
ECI-5 1.-2.C.125VF4.5	1.000	2.0000	2.0000	.1250	1.000	4.500	5	C	●
ECI-5 1.-2.C0VF4.5	1.000	2.0000	2.0000	0	1.000	4.500	5	C	●
ECI-5 1.-2.W.015VF4.5	1.000	2.0000	2.0000	.0150	1.000	4.500	5	W	●
ECI-5 1.-2.W.03VF4.5	1.000	2.0000	2.0000	.0300	1.000	4.500	5	W	●
ECI-5 1.-2.W.06VF4.5	1.000	2.0000	2.0000	.0600	1.000	4.500	5	W	●
ECI-5 1.-2.W.09VF4.5	1.000	2.0000	2.0000	.0900	1.000	4.500	5	W	●
ECI-5 1.-2.W.125VF4.5	1.000	2.0000	2.0000	.1250	1.000	4.500	5	W	●
ECI-5 1.-2.W0VF4.5	1.000	2.0000	2.0000	0	1.000	4.500	5	W	●
ECI-5 1.-2.25C.015VF5	1.000	2.2500	2.2500	.0150	1.000	5.000	5	C	●
ECI-5 1.-2.25C.03VF5	1.000	2.2500	2.2500	.0300	1.000	5.000	5	C	●
ECI-5 1.-2.25C.06VF5	1.000	2.2500	2.2500	.0600	1.000	5.000	5	C	●
ECI-5 1.-2.25C.09VF5	1.000	2.2500	2.2500	.0900	1.000	5.000	5	C	●
ECI-5 1.-2.25C.125VF5	1.000	2.2500	2.2500	.1250	1.000	5.000	5	C	●
ECI-5 1.-2.25C0VF5	1.000	2.2500	2.2500	0	1.000	5.000	5	C	●
ECI-5 1.-2.25W.015VF5	1.000	2.2500	2.2500	.0150	1.000	5.000	5	W	●
ECI-5 1.-2.25W.03VF5	1.000	2.2500	2.2500	.0300	1.000	5.000	5	W	●
ECI-5 1.-2.25W.06VF5	1.000	2.2500	2.2500	.0600	1.000	5.000	5	W	●
ECI-5 1.-2.25W.09VF5	1.000	2.2500	2.2500	.0900	1.000	5.000	5	W	●
ECI-5 1.-2.25W.125VF5	1.000	2.2500	2.2500	.1250	1.000	5.000	5	W	●
ECI-5 1.-2.25W0VF5	1.000	2.2500	2.2500	0	1.000	5.000	5	W	●
ECI-5 1.-3.25C.010VF6	1.000	3.2500	3.2500	.0100	1.000	6.000	5	C	●
ECI-5 1.-3.25C.015VF6	1.000	3.2500	3.2500	.0150	1.000	6.000	5	C	●
ECI-5 1.-3.25C.03VF6	1.000	3.2500	3.2500	.0300	1.000	6.000	5	C	●
ECI-5 1.-3.25C.06VF6	1.000	3.2500	3.2500	.0600	1.000	6.000	5	C	●
ECI-5 1.-3.25C.09VF6	1.000	3.2500	3.2500	.0900	1.000	6.000	5	C	●
ECI-5 1.-3.25C.125VF6	1.000	3.2500	3.2500	.1250	1.000	6.000	5	C	●

<sup>(1)</sup> Number of flutes

• Weldon shank available upon request. Substitute a **W** in place of the **C** in the listed designations (example - ECI-4 375-1.0C03VF2.5 = cylindrical type; ECI-4 375-1.0W03VF2.5 = Weldon type)

**ECI-5-VF** Continued

5 Flute Endmill With and Without Relieved Neck, Assorted Radii and Variable Pitch for Chatter Dampening



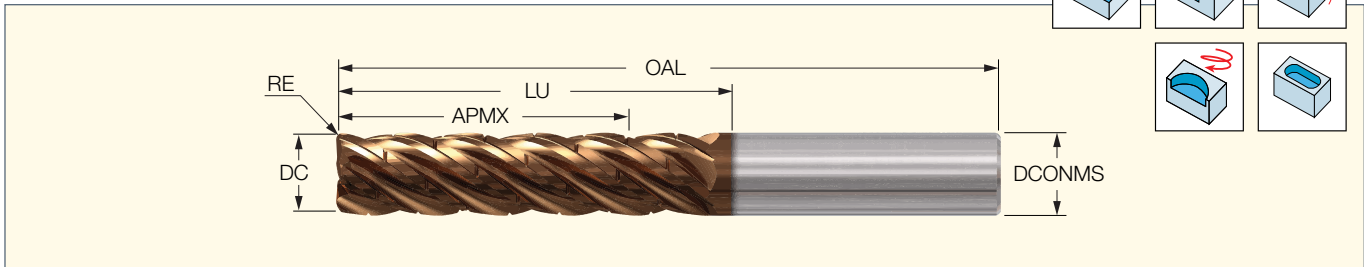
Designation	Dimensions								IC608
	DC	APMX	LU	RE	DCONMS	OAL	NOF <sup>(1)</sup>	Shank	
ECI-5 1.-3.25C0VF6	1.000	3.2500	3.2500	0	1.000	6.000	5	C	●
ECI-5 1.-3.25W.015VF6	1.000	3.2500	3.2500	.0150	1.000	6.000	5	W	●
ECI-5 1.-3.25W.03VF6	1.000	3.2500	3.2500	.0300	1.000	6.000	5	W	●
ECI-5 1.-3.25W.06VF6	1.000	3.2500	3.2500	.0600	1.000	6.000	5	W	●
ECI-5 1.-3.25W.09VF6	1.000	3.2500	3.2500	.0900	1.000	6.000	5	W	●
ECI-5 1.-3.25W.125VF6	1.000	3.2500	3.2500	.1250	1.000	6.000	5	W	●
ECI-5 1.-3.25W0VF6	1.000	3.2500	3.2500	0	1.000	6.000	5	W	●
ECI-5 1.-4.13C.010VF7	1.000	4.1250	4.1250	.0100	1.000	7.000	5	C	●
ECI-5 1.-4.13C.015VF7	1.000	4.1250	4.1250	.0150	1.000	7.000	5	C	●
ECI-5 1.-4.13C.03VF7	1.000	4.1250	4.1250	.0300	1.000	7.000	5	C	●
ECI-5 1.-4.13C.06VF7	1.000	4.1250	4.1250	.0600	1.000	7.000	5	C	●
ECI-5 1.-4.13C.09VF7	1.000	4.1250	4.1250	.0900	1.000	7.000	5	C	●
ECI-5 1.-4.13C.125VF7	1.000	4.1250	4.1250	.1250	1.000	7.000	5	C	●
ECI-5 1.-4.13C0VF7	1.000	4.1250	4.1250	0	1.000	7.000	5	C	●
ECI-5 1.-4.13W.015VF7	1.000	4.1250	4.1250	.0150	1.000	7.000	5	W	●
ECI-5 1.-4.13W.03VF7	1.000	4.1250	4.1250	.0300	1.000	7.000	5	W	●
ECI-5 1.-4.13W.06VF7	1.000	4.1250	4.1250	.0600	1.000	7.000	5	W	●
ECI-5 1.-4.13W.09VF7	1.000	4.1250	4.1250	.0900	1.000	7.000	5	W	●
ECI-5 1.-4.13W.125VF7	1.000	4.1250	4.1250	.1250	1.000	7.000	5	W	●
ECI-5 1.-4.13W0VF7	1.000	4.1250	4.1250	0	1.000	7.000	5	W	●
ECI-5 .25-1.C.06VF3	.250	1.0000	1.0000	.0600	999.000	3.000	5	C	●

<sup>(1)</sup> Number of flutes

- Weldon shank available upon request. Substitute a **W** in place of the **C** in the listed designations (example - ECI-4 375-1.0C03VF2.5 = cylindrical type; ECI-4 375-1.0W03VF2.5 = Weldon type)

**ECI-5-VF-CS**

5 Flute Chip Splitter Endmill, Assorted Radii and Variable Pitch for Chatter Dampening.



Designation	Dimensions								IC608
	DC	APMX	LU	RE	DCONMS	LF	NOF <sup>(1)</sup>	Shank	
ECI-5 .5-1.63C.03VF4-CS	.500	1.6300	1.6300	.0300	.500	4.000	5	C	●
ECI-5 .5-1.63C.06VF4-CS	.500	1.6300	1.6300	.0600	.500	4.000	5	C	●
ECI-5 .5-2.5C.03VF5-CS	.500	2.0000	2.0000	.0300	.500	4.000	5	C	●
ECI-5 .5-2.5C.06VF5-CS	.500	2.0000	2.0000	.0600	.500	4.000	5	C	●
ECI-5 .5-2.C.03VF4-CS	.500	2.5000	2.5000	.0300	.500	5.000	5	C	●
ECI-5 .5-2.C.06VF4-CS	.500	2.5000	2.5000	.0600	.500	5.000	5	C	●
ECI-5 .5-3.13C.03VF6-CS	.500	3.1300	3.1300	.0300	.500	6.000	5	C	●
ECI-5 .5-3.13C.06VF6-CS	.500	3.1300	3.1300	.0600	.500	6.000	5	C	●
ECI-5 .625-2.5C.03VF5-CS	.625	2.5000	2.5000	.0300	.625	5.000	5	C	●
ECI-5 .625-2.5C.06VF5-CS	.625	2.5000	2.5000	.0600	.625	5.000	5	C	●
ECI-5 .625-3.C.03VF6-CS	.625	3.0000	3.0000	.0300	.625	6.000	5	C	●
ECI-5 .625-3.C.06VF6-CS	.625	3.0000	3.0000	.0600	.625	6.000	5	C	●
ECI-5 .75-2.25C.03VF5-CS	.750	2.2500	2.2500	.0300	.750	5.000	5	C	●
ECI-5 .75-2.25C.06VF5-CS	.750	2.2500	2.2500	.0600	.750	5.000	5	C	●
ECI-5 .75-3.25C.03VF6-CS	.750	3.2500	3.2500	.0300	.750	6.000	5	C	●
ECI-5 .75-3.25C.06VF6-CS	.750	3.2500	3.2500	.0600	.750	6.000	5	C	●

<sup>(1)</sup> Number of flutes

**Slotting**

ISO	Material No.	Material	Condition	Cutting Speed Recommendations (V <sub>c</sub> ) SFM	Hardness HB	Cutting Diameter Feed (IPT)											Slotting Axial
						1/8	3/16	1/4	5/16	3/8	7/16	1/2	5/8	3/4	1	ap max	
P	1	Non-alloy steel and cast steel, free cutting steel	Annealed	890-960	125	.0003	.0004	.0006	.0007	.0009	.0010	.0012	.0015	.0018	.0024	1xD	
	2		<.25%C	Annealed	710-815	190	.0003	.0004	.0006	.0007	.0009	.0010	.0012	.0015	.0018	.0024	1xD
	3		>=.55%C	Quench and tempered	570-780	250	.0003	.0004	.0006	.0007	.0009	.0010	.0012	.0015	.0018	.0024	1xD
	4		>=.55%C	Annealed	570-780	220	.0003	.0004	.0006	.0007	.0009	.0010	.0012	.0015	.0018	.0024	1xD
	5		>=.55%C	Quench & tempered	500-635	300	.0003	.0004	.0006	.0007	.0009	.0010	.0012	.0015	.0018	.0024	1xD
	6		Low alloy & cast steel (less than 5% of alloying elements)	Annealed	570-780	200	.0003	.0004	.0006	.0007	.0009	.0010	.0012	.0015	.0018	.0024	1xD
	7			Quench & tempered	425-635	275	.0003	.0004	.0006	.0007	.0009	.0010	.0012	.0015	.0018	.0024	1xD
	8			Quench & tempered	450-635	300	.0003	.0004	.0006	.0007	.0009	.0010	.0012	.0015	.0018	.0024	1xD
	9			Quench & tempered	500-635	350	.0003	.0004	.0006	.0007	.0009	.0010	.0012	.0015	.0018	.0024	1xD
	10		High alloyed steel, cast steel and tool steel	Annealed	450-635	200	.0003	.0004	.0006	.0007	.0009	.0010	.0012	.0015	.0018	.0024	1xD
	11			Quench & tempered	240-425	325	.0003	.0004	.0006	.0007	.0009	.0010	.0012	.0015	.0018	.0024	1xD
	12		Stainless steel and cast steel	Ferritic/martensitic	280-570	200	.0003	.0004	.0006	.0007	.0009	.0020	.0012	.0015	.0018	.0024	1xD
	13			Martensitic	210-530	240	.0003	.0004	.0006	.0007	.0009	.0020	.0012	.0015	.0018	.0024	1xD
M	14	Stainless steel and cast steel	Austenitic	210-425	180	.0003	.0004	.0006	.0007	.0009	.0020	.0012	.0015	.0018	.0024	1xD	
K	15	Grey cast iron (GG)	Pearlitic/ferritic	280-890	180	.0003	.0004	.0006	.0007	.0009	.0030	.0012	.0015	.0018	.0024	1xD	
	16		Pearlitic/martensitic	450-850	260	.0003	.0004	.0006	.0007	.0009	.0030	.0012	.0015	.0018	.0024	1xD	
	17	Nodular cast iron (GGG)	Ferritic	530-960	160	.0003	.0004	.0006	.0007	.0009	.0010	.0012	.0015	.0018	.0024	1xD	
	18		Pearlitic	530-960	250	.0003	.0004	.0006	.0007	.0009	.0010	.0012	.0015	.0018	.0024	1xD	
	19		Ferritic	530-960	130	.0003	.0004	.0006	.0007	.0009	.0010	.0012	.0015	.0018	.0024	1xD	
20	Malleable cast iron	Pearlitic	500-850	230	.0003	.0004	.0006	.0007	.0009	.0010	.0012	.0015	.0018	.0024	1xD		
S	31	High temp. alloys	Fe based	Annealed	70-145	200	.0003	.0004	.0006	.0007	.0009	.0010	.0012	.0015	.0018	.0024	1xD
	32			Cured	70-110	280	.0003	.0004	.0006	.0007	.0009	.0010	.0012	.0015	.0018	.0024	1xD
	33		Ni or Co based	Annealed	70-110	250	.0003	.0004	.0006	.0007	.0009	.0010	.0012	.0015	.0018	.0024	1xD
	34			Cured	70-110	350	.0003	.0004	.0006	.0007	.0009	.0010	.0012	.0015	.0018	.0024	1xD
	35			Cast	70-110	320	.0003	.0004	.0006	.0007	.0009	.0010	.0012	.0015	.0018	.0024	1xD
	36		Titanium Ti alloys	Pure	110-280	310	.0003	.0004	.0006	.0007	.0009	.0020	.0012	.0015	.0018	.0024	1xD
	37			Alpha+beta alloys cured	80-280	310	.0003	.0004	.0006	.0007	.0009	.0010	.0012	.0015	.0018	.0024	1xD



# Roughing

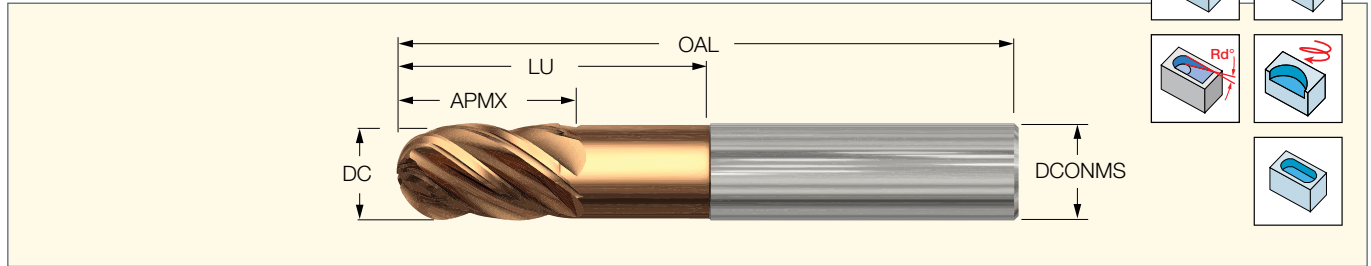
ISO	Material No.	Material	Condition	Cutting Speed Recommendations (V <sub>c</sub> ) SFM	Hardness HB	Cutting Diameter Feed (IPT)											Profiling Radial	
						1/8	3/16	1/4	5/16	3/8	7/16	1/2	5/8	3/4	1	a <sub>p</sub>	a <sub>e</sub>	
P	1	Non-alloy steel and cast steel, free cutting steel	<.25%C	Annealed	890-960	125	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD
	2		>=.25%C	Annealed	710-815	190	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD
	3		<.55%C	Quench and tempered	570-780	250	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD
	4		>=.55%C	Annealed	570-780	220	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD
	5		>=.55%C	Quenched & tempered	500-635	300	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD
	6	Low alloy & cast steel (less than 5% of alloying elements)	Annealed	570-780	200	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD	
	7		Quenched & tempered	425-635	275	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD	
	8		Quenched & tempered	450-635	300	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD	
	9		Quenched & tempered	500-635	350	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD	
	10	High alloyed steel, cast steel and tool steel	Annealed	450-635	200	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD	
	11		Quenched & tempered	240-425	325	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD	
	12	Stainless steel and cast steel	Ferritic/martensitic	280-570	200	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD	
	13		Martensitic	210-530	240	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD	
M	14	Stainless steel and cast steel	Austenitic	210-425	180	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD	
K	15	Grey cast iron (GG)	Pearlitic/ferritic	280-890	180	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD	
	16		Pearlitic/martensitic	450-850	260	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD	
	17	Nodular cast iron (GGG)	Ferritic	530-960	160	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD	
	18		Pearlitic	530-960	250	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD	
	19	Malleable cast iron	Ferritic	530-960	130	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD	
	20		Pearlitic	500-850	230	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD	
S	31	Fe based	Annealed	70-145	200	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD	
	32		Cured	70-110	280	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD	
	33	High temp. alloys	Ni or Co based	Annealed	70-110	250	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD
	34			Cured	70-110	350	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD
	35		Cast	70-110	320	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD	
	36	Titanium Ti alloys	Pure	110-280	310	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD	
	37		Alpha+beta alloys cured	80-280	310	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.25xD-.4xD	
H	38	Hardened Steel	Hardened	110-210	55 HRC	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.02xD	
	39		Hardened	110-145	60 HRC	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.02xD	
	40	Chilled Cast Iron	Cast	250-320	400	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.02xD	
	41	Cast Iron	Hardened	110-210	55 HRC	.00035-.0004	.0005-.0006	.0007-.0008	.0008-.001	.001-.0012	.0011-.0014	.0013-.0016	.0016-.002	.0019-.0024	.0026-.0031	.75xD-1.5xD	.02xD	

## Semi-Finish

ISO	Material No.	Material	Condition	Cutting Speed Recommendations (V <sub>c</sub> ) SFM	Hardness HB	Cutting Diameter Feed (IPT)										Profiling Radial		
						1/8	3/16	1/4	5/16	3/8	7/16	1/2	5/8	3/4	1	a <sub>p</sub>	a <sub>e</sub>	
P	1	Non-alloy steel and cast steel, free cutting steel	≥.25%C	Annealed	890-960	125	.0009	.0013	.0017	.0021	.0025	.0030	.0034	.0042	.0050	.0068	1xD	.05xD
	2		≥.25%C	Annealed	710-815	190	.0009	.0013	.0017	.0021	.0025	.0030	.0034	.0042	.0050	.0068	1xD	.05xD
	3		<.55%C	Quench and tempered	570-780	250	.0009	.0013	.0017	.0021	.0025	.0030	.0034	.0042	.0050	.0068	1xD	.05xD
	4		>=.55%C	Annealed	570-780	220	.0009	.0013	.0017	.0021	.0025	.0030	.0034	.0042	.0050	.0068	1xD	.05xD
	5		>=.55%C	Quenched & tempered	500-635	300	.0009	.0013	.0017	.0021	.0025	.0030	.0034	.0042	.0050	.0068	1xD	.05xD
	6		>=.55%C	Annealed	570-780	200	.0009	.0013	.0017	.0021	.0025	.0030	.0034	.0042	.0050	.0068	1xD	.05xD
	7	Low alloy & cast steel (less than 5% of alloying elements)		Quenched & tempered	425-635	275	.0009	.0013	.0017	.0021	.0025	.0030	.0034	.0042	.0050	.0068	1xD	.05xD
	8			Quenched & tempered	450-635	300	.0009	.0013	.0017	.0021	.0025	.0030	.0034	.0042	.0050	.0068	1xD	.05xD
	9			Quenched & tempered	500-635	350	.0009	.0013	.0017	.0021	.0025	.0030	.0034	.0042	.0050	.0068	1xD	.05xD
	10	High alloyed steel, cast steel and tool steel		Annealed	450-635	200	.0009	.0013	.0017	.0021	.0025	.0030	.0034	.0042	.0050	.0068	1xD	.05xD
	11			Quenched & tempered	240-425	325	.0009	.0013	.0017	.0021	.0025	.0030	.0034	.0042	.0050	.0068	1xD	.05xD
	12	Stainless steel and cast steel		Ferritic/martensitic	280-570	200	.0009	.0013	.0017	.0021	.0025	.0030	.0034	.0042	.0050	.0068	1xD	.05xD
	13			Martensitic	210-530	240	.0009	.0013	.0017	.0021	.0025	.0030	.0034	.0042	.0050	.0068	1xD	.05xD
M	14	Stainless steel and cast steel		Austenitic	210-425	180	.0009	.0013	.0017	.0021	.0025	.0030	.0034	.0042	.0050	.0068	1xD	.05xD
K	15	Grey cast iron (GG)		Pearlitic/ferritic	280-890	180	.0009	.0013	.0017	.0021	.0025	.0030	.0034	.0042	.0050	.0068	1xD	.05xD
	16			Pearlitic/martensitic	450-850	260	.0009	.0013	.0017	.0021	.0025	.0030	.0034	.0042	.0050	.0068	1xD	.05xD
	17	Nodular cast iron (GGG)		Ferritic	530-960	160	.0009	.0013	.0017	.0021	.0025	.0030	.0034	.0042	.0050	.0068	1xD	.05xD
	18			Pearlitic	530-960	250	.0009	.0013	.0017	.0021	.0025	.0030	.0034	.0042	.0050	.0068	1xD	.05xD
	19	Malleable cast iron		Ferritic	530-960	130	.0009	.0013	.0017	.0021	.0025	.0030	.0034	.0042	.0050	.0068	1xD	.05xD
20			Pearlitic	500-850	230	.0009	.0013	.0017	.0021	.0025	.0030	.0034	.0042	.0050	.0068	1xD	.05xD	
S	31	High temp. alloys	Fe based	Annealed	70-145	200	.0009	.0013	.0017	.0021	.0025	.0030	.0034	.0042	.0050	.0068	1xD	.05xD
	32			Cured	70-110	280	.0009	.0013	.0017	.0021	.0025	.0030	.0034	.0042	.0050	.0068	1xD	.05xD
	33		Ni or Co based	Annealed	70-110	250	.0009	.0013	.0017	.0021	.0025	.0030	.0034	.0042	.0050	.0068	1xD	.05xD
	34			Cured	70-110	350	.0009	.0013	.0017	.0021	.0025	.0030	.0034	.0042	.0050	.0068	1xD	.05xD
	35			Cast	70-110	320	.0009	.0013	.0017	.0021	.0025	.0030	.0034	.0042	.0050	.0068	1xD	.05xD
	36			Pure	110-280	310	.0009	.0013	.0017	.0021	.0025	.0030	.0034	.0042	.0050	.0068	1xD	.05xD
37	Titanium Ti alloys		Alpha+beta alloys cured	80-280	310	.0009	.0013	.0017	.0021	.0025	.0030	.0034	.0042	.0050	.0068	1xD	.05xD	
H	38	Hardened Steel		Hardened	110-210	55 HRC	.0009	.0013	.0017	.0021	.0025	.0030	.0034	.0042	.0050	.0068	1xD	.02xD
	39			Hardened	110-145	60 HRC	.0009	.0013	.0017	.0021	.0025	.0030	.0034	.0042	.0050	.0068	1xD	.02xD
	40	Chilled Cast Iron		Cast	250-320	400	.0009	.0013	.0017	.0021	.0025	.0030	.0034	.0042	.0050	.0068	1xD	.02xD
	41	Cast Iron		Hardened	110-210	55 HRC	.0009	.0013	.0017	.0021	.0025	.0030	.0034	.0042	.0050	.0068	1xD	.02xD

**EBI-5-VF**

5 Flute Ball Nose Endmills With and Without Relieved Necks



Designation	Dimensions						IC608
	DC	APMX	LU	DCONMS	OAL	NOF <sup>(1)</sup>	
EBI-5 .25-.5CVF2	.250	.5000	.5000	.250	2.000	5	●
EBI-5 .25-.5/2.13CVF4	.250	.5000	2.1250	.250	4.000	5	●
EBI-5 .25-.75CVF2.5	.250	.7500	.7500	.250	2.500	5	●
EBI-5 .25-1.CVF3	.250	1.0000	1.0000	.250	3.000	5	●
EBI-5 .375-.5CVF2	.375	.5000	.5000	.375	2.000	5	●
EBI-5 .375-.75/2.13CVF4	.375	.7500	2.1250	.375	4.000	5	●
EBI-5 .375-1.CVF2.5	.375	1.0000	1.0000	.375	2.500	5	●
EBI-5 .375-1.CVF3	.375	1.0000	1.0000	.375	3.000	5	●
EBI-5 .375-1.5CVF4	.375	1.5000	1.5000	.375	4.000	5	●
EBI-5 .5-.63CVF2.5	.500	.6250	.6250	.500	2.500	5	●
EBI-5 .5-.88/1.38CVF3	.500	.8750	1.3750	.500	3.000	5	●
EBI-5 .5-.88/2.13CVF4	.500	.8750	2.1250	.500	4.000	5	●
EBI-5 .5-.88/3.13CVF5	.500	.8750	3.1250	.500	5.000	5	●
EBI-5 .5-.88/4.13CVF6	.500	.8750	4.1250	.500	6.000	5	●
EBI-5 .5-1.25CVF3	.500	1.2500	1.2500	.500	3.000	5	●
EBI-5 .5-1.63CVF4	.500	1.6250	1.6250	.500	4.000	5	●
EBI-5 .5-2.CVF4	.500	2.0000	2.0000	.500	4.000	5	●
EBI-5 .5-2.5CVF5	.500	2.5000	2.5000	.500	5.000	5	●
EBI-5 .5-3.13CVF6	.500	3.1250	3.1250	.500	6.000	5	●
EBI-5 .625-.75CVF3	.625	.7500	.7500	.625	3.000	5	●
EBI-5 .625-1./2.CVF4	.625	1.0000	2.0000	.625	4.000	5	●
EBI-5 .625-1./3.CVF5	.625	1.0000	3.0000	.625	5.000	5	●
EBI-5 .625-1./4.CVF6	.625	1.0000	4.0000	.625	6.000	5	●
EBI-5 .625-1.63CVF3.5	.625	1.6250	1.6250	.625	3.500	5	●
EBI-5 .625-2.5CVF5	.625	2.5000	2.5000	.625	5.000	5	●
EBI-5 .625-3.CVF6	.625	3.0000	3.0000	.625	6.000	5	●
EBI-5 .75-1.CVF3	.750	1.0000	1.0000	.750	3.000	5	●
EBI-5 .75-1.25/2.CVF4	.750	1.2500	2.0000	.750	4.000	5	●
EBI-5 .75-1.25/3.CVF5	.750	1.2500	3.0000	.750	5.000	5	●
EBI-5 .75-1.25/4.CVF6	.750	1.2500	4.0000	.750	6.000	5	●
EBI-5 .75-1.63CVF4	.750	1.6250	1.6250	.750	4.000	5	●
EBI-5 .75-2.25CVF5	.750	2.2500	2.2500	.750	5.000	5	●
EBI-5 .75-3.25CVF6	.750	3.2500	3.2500	.750	6.000	5	●
EBI-5 .75-4.13CVF7	.750	4.1250	4.1250	.750	7.000	5	●
EBI-5 1.-1.5CVF4	1.000	1.5000	1.5000	1.000	4.000	5	●
EBI-5 1.-1.5/3.CVF5	1.000	1.5000	3.0000	1.000	5.000	5	●
EBI-5 1.-1.5/4.CVF6	1.000	1.5000	4.0000	1.000	6.000	5	●
EBI-5 1.-1.5/5.CVF7	1.000	1.5000	5.0000	1.000	7.000	5	●
EBI-5 1.-2.CVF45	1.000	2.0000	2.0000	1.000	4.500	5	●
EBI-5 1.-2.25CVF5	1.000	2.2500	2.2500	1.000	5.000	5	●
EBI-5 1.-3.25CVF6	1.000	3.2500	3.2500	1.000	6.000	5	●
EBI-5 1.-4.13CVF7	1.000	4.1250	4.1250	1.000	7.000	5	●

<sup>(1)</sup> Number of flutes

- Weldon shank available upon request. Substitute a **W** in place of the **C** in the listed designations (example - ECI-4 375-1.0**C**03VF2.5 = cylindrical type; ECI-4 375-1.0**W**03VF2.5 = Weldon type)

# Slotting

ISO	Material Group No.	Material	Condition	Cutting Speed Recommendations V <sub>c</sub> (SFM)	Hardness HB	Feed (IPT) per Cutting Diameter (inch)								Slotting Axial	
						3/16	1/4	5/16	3/8	1/2	5/8	3/4	1		a <sub>p</sub> max
P	1	Non-alloy steel and cast steel, free cutting steel	<0.25% C	Annealed	1020-1100	125	.001	.002	.002	.003	.003	.004	.004	.005	1xD
	2		≥0.25% C	Annealed	820-940	190	.001	.002	.002	.003	.003	.004	.004	.005	1xD
	3		<0.55% C	Quenched and tempered	650-890	250	.001	.002	.002	.003	.003	.004	.004	.005	1xD
	4		≥0.55% C	Annealed	650-890	220	.001	.002	.002	.003	.003	.004	.004	.005	1xD
	5		≥0.55% C	Quenched & tempered	570-730	300	.001	.002	.002	.003	.003	.004	.004	.005	1xD
	6	Low alloy & cast steel (less than 5% of alloying elements)	Annealed	650-890	200	.001	.002	.002	.003	.003	.004	.004	.005	1xD	
	7		Quenched & tempered	490-730	275	.001	.002	.002	.002	.003	.003	.004	.004	1xD	
	8		Quenched & tempered	520-730	300	.001	.002	.002	.002	.003	.003	.004	.004	1xD	
	9		Quenched & tempered	570-730	350	.001	.002	.002	.002	.003	.003	.004	.004	1xD	
	10	High alloyed steel, cast steel and tool steel	Annealed	520-730	200	.001	.001	.002	.002	.003	.003	.003	.003	1xD	
	11		Quenched & tempered	280-490	325	.001	.001	.002	.002	.003	.003	.003	.003	1xD	
	12	Stainless steel and cast steel	Ferritic/martensitic	320-650	200	.001	.001	.002	.002	.002	.003	.003	.004	1xD	
	13		Martensitic	240-610	240	.001	.001	.001	.001	.002	.002	.003	.003	1xD	
M	14	Stainless steel and cast steel	Austenitic, duplex	240-490	180	.001	.002	.002	.002	.003	.003	.003	.004	1xD	
K	15	Grey cast iron (GG)	Ferritic / pearlitic	320-1020	180	.001	.002	.003	.003	.003	.004	.004	.005	1xD	
	16		Pearlitic/martensitic	520-980	260	.001	.002	.003	.003	.003	.004	.004	.005	1xD	
	17		Ferritic	610-1100	160	.001	.002	.002	.002	.003	.003	.004	.005	1xD	
	18	Nodular cast iron (GGG)	Pearlitic	610-1100	250	.001	.002	.002	.002	.003	.003	.004	.005	1xD	
	19		Ferritic	610-1100	130	.001	.002	.002	.002	.003	.003	.004	.005	1xD	
	20	Malleable cast iron	Pearlitic	570-980	230	.001	.002	.002	.002	.003	.003	.004	.005	1xD	
S	31	High temp. alloys	Fe based	Annealed	80-160	200	.001	.002	.002	.003	.003	.003	.004	.005	1xD
	32			Hardened	80-120	280	.001	.002	.002	.003	.003	.003	.004	.005	1xD
	33		Ni or Co based	Annealed	80-120	250	.001	.001	.001	.002	.002	.002	.002	.002	1xD
	34			Hardened	80-120	350	.001	.001	.001	.002	.002	.002	.002	.002	1xD
	35			Cast	80-120	320	.001	.001	.001	.002	.002	.002	.002	.002	1xD
	36	Titanium alloys	Pure	120-320	190	.001	.001	.001	.002	.002	.003	.003	.003	1xD	
	37		Alpha+Beta alloys, hardened	90-320	310	.001	.001	.001	.002	.002	.003	.003	.003	1xD	



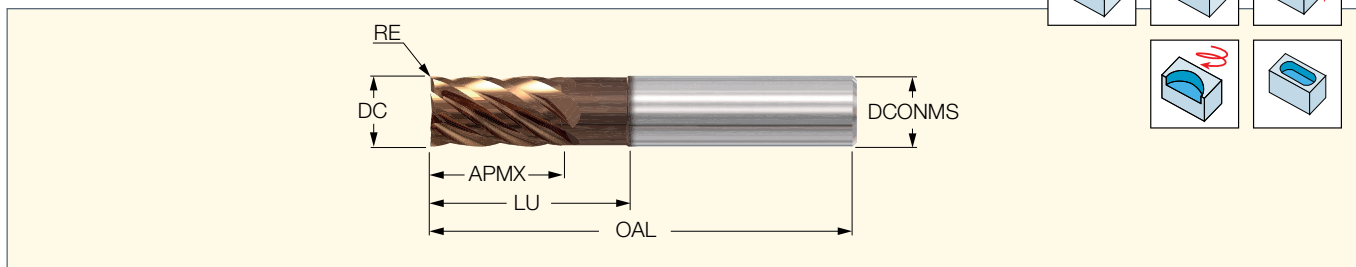
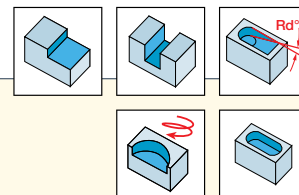
## Semi-Finish and Finishing

ISO	Material Group No.	Material	Condition	Cutting Speed Recommendations V <sub>c</sub> (SFM)	Hardness HB	Feed (IPT) per Cutting Diameter (inch)								Profiling Radial		
						3/16	1/4	5/16	3/8	1/2	5/8	3/4	1	a <sub>p</sub>	a <sub>e</sub>	
P	1	Non-alloy steel and cast steel, free cutting steel	<0.25% C Annealed	1020-1100	125	.001	.002	.002	.003	.003	.004	.004	.005	1.25xD	.05xD	
	2		≥0.25% C Annealed	820-940	190	.001	.002	.002	.003	.003	.004	.004	.005	1.25xD	.05xD	
	3		<0.55% C Quenched and tempered	650-890	250	.001	.002	.002	.003	.003	.004	.004	.005	1.25xD	.05xD	
	4		≥0.55% C Annealed	650-890	220	.001	.002	.002	.003	.003	.004	.004	.005	1.25xD	.05xD	
	5		Quenched & tempered	570-730	300	.001	.002	.002	.003	.003	.004	.004	.005	1.25xD	.05xD	
	6		Annealed	650-890	200	.001	.002	.002	.003	.003	.004	.004	.005	1.25xD	.05xD	
	7		Quenched & tempered	490-730	275	.001	.002	.002	.002	.003	.003	.004	.004	.005	1.25xD	.05xD
	8		Quenched & tempered	520-730	300	.001	.002	.002	.002	.003	.003	.004	.004	.005	1.25xD	.05xD
	9		Quenched & tempered	570-730	350	.001	.002	.002	.002	.003	.003	.004	.004	.005	1.25xD	.05xD
	10		Annealed	520-730	200	.001	.001	.002	.002	.003	.003	.003	.003	.003	1.25xD	.05xD
	11		Quenched & tempered	280-490	325	.001	.001	.002	.002	.003	.003	.003	.003	.003	1.25xD	.05xD
	12		Ferritic/martensitic	320-650	200	.001	.001	.002	.002	.002	.003	.003	.004	.004	1.25xD	.05xD
	13		Martensitic	240-610	240	.001	.001	.001	.001	.002	.002	.002	.003	.003	1.25xD	.05xD
M	14	Stainless steel and cast steel	Austenitic, duplex	240-490	180	.001	.002	.002	.002	.003	.003	.003	.004	1.25xD	.05xD	
K	15	Grey cast iron (GG)	Ferritic / pearlitic	320-1020	180	.001	.002	.003	.003	.003	.004	.004	.005	1.25xD	.05xD	
	16		Pearlitic/martensitic	520-980	260	.001	.002	.003	.003	.003	.004	.004	.005	1.25xD	.05xD	
	17	Nodular cast iron (GGG)	Ferritic	610-1100	160	.001	.002	.002	.002	.003	.003	.004	.005	1.25xD	.05xD	
	18		Pearlitic	610-1100	250	.001	.002	.002	.002	.003	.003	.004	.005	1.25xD	.05xD	
	19	Malleable cast iron	Ferritic	610-1100	130	.001	.002	.002	.002	.003	.003	.004	.005	1.25xD	.05xD	
	20		Pearlitic	570-980	230	.001	.002	.002	.002	.003	.003	.004	.005	1.25xD	.05xD	
S	31	High temp. alloys	Fe based	Annealed	80-160	200	.001	.002	.002	.003	.003	.003	.004	.005	1.25xD	.05xD
	32			Hardened	80-120	280	.001	.002	.002	.003	.003	.003	.004	.005	1.25xD	.05xD
	33		Ni or Co based	Annealed	80-120	250	.001	.001	.001	.002	.002	.002	.002	.002	1.25xD	.05xD
	34			Hardened	80-120	350	.001	.001	.001	.002	.002	.002	.002	.002	1.25xD	.05xD
	35			Cast	80-120	320	.001	.001	.001	.002	.002	.002	.002	.002	1.25xD	.05xD
	36		Titanium alloys	Pure	120-320	190	.001	.001	.001	.002	.002	.003	.003	.003	1.25xD	.05xD
	37			Alpha+Beta alloys, hardened	90-320	310	.001	.001	.001	.002	.002	.003	.003	.003	1.25xD	.05xD
H	38	Hardened steel	Hardened	120-240	55 HRC	.001	.001	.002	.002	.002	.003	.003	.004	1.25xD	.02xD	
	39		Hardened	120-160	60 HRC	.001	.001	.002	.002	.002	.003	.003	.004	1.25xD	.02xD	
	40	Chilled cast iron	Cast	290-370	400	.001	.001	.002	.002	.002	.003	.003	.004	1.25xD	.02xD	
	41	Cast iron	Hardened	120-240	55 HRC	.001	.001	.002	.002	.002	.003	.003	.004	1.25xD	.02xD	



**ECI-6-VF**

6 Flute Endmill With and Without Relieved Neck, Assorted Radii and Variable Pitch for Chatter Dampening

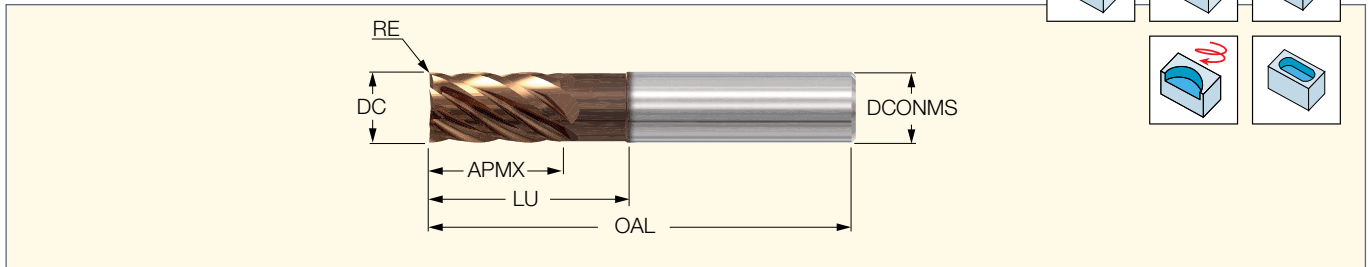
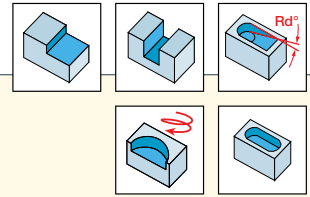


Designation	Dimensions								IC608
	DC	APMX	LU	RE	DCONMS	OAL	NOF <sup>(1)</sup>	Shank	
ECI-6 250-500/2.125C0VF4	.250	.5000	2.1250	0	.250	4.000	6	C	●
ECI-6 250-500/2.13C010VF4	.250	.5000	2.1250	.0100	.250	4.000	6	C	●
ECI-6 250-500/2.13C015VF4	.250	.5000	2.1300	.0150	.250	4.000	6	C	●
ECI-6 250-500/2.13C030VF4	.250	.5000	2.1300	.0300	.250	4.000	6	C	●
ECI-6 250-500/2.13C060VF4	.250	.5000	2.1300	.0600	.250	4.000	6	C	●
ECI-6 250-500C0VF2	.250	.5000	.5000	0	.250	2.000	6	C	●
ECI-6 250-500C010VF2	.250	.5000	.5000	.0100	.250	2.000	6	C	●
ECI-6 250-500C015VF2	.250	.5000	.5000	.0150	.250	2.000	6	C	●
ECI-6 250-500C030VF2	.250	.5000	.5000	.0300	.250	2.000	6	C	●
ECI-6 250-500C060VF2	.250	.5000	.5000	.0600	.250	2.000	6	C	●
ECI-6 250-750C0VF2.5	.250	.7500	.7500	0	.250	2.500	6	C	●
ECI-6 250-750C015VF2.5	.250	.7500	.7500	.0150	.250	2.500	6	C	●
ECI-6 250-750C030VF2.5	.250	.7500	.7500	.0300	.250	2.500	6	C	●
ECI-6 250-750C060VF2.5	.250	.7500	.7500	.0600	.250	2.500	6	C	●
ECI-6 250-1C0VF3	.250	1.0000	1.0000	0	.250	3.000	6	C	●
ECI-6 250-1C015VF3	.250	1.0000	1.0000	.0150	.250	3.000	6	C	●
ECI-6 250-1C030VF3	.250	1.0000	1.0000	.0300	.250	3.000	6	C	●
ECI-6 250-1C060VF3	.250	1.0000	1.0000	.0600	.250	3.000	6	C	●
ECI-6 312-500C0VF2	.312	.5000	.5000	0	.312	2.000	6	C	●
ECI-6 312-500C015VF2	.312	.5000	.5000	.0150	.312	2.000	6	C	●
ECI-6 312-500C030VF2	.312	.5000	.5000	.0300	.312	2.000	6	C	●
ECI-6 312-875C0VF2.5	.312	.8750	.8750	0	.312	2.500	6	C	●
ECI-6 312-875C015VF2.5	.312	.8750	.8750	.0150	.312	2.500	6	C	●
ECI-6 312-875C030VF2.5	.312	.8750	.8750	.0300	.312	2.500	6	C	●
ECI-6 312-1C0VF3	.312	1.0000	1.0000	0	.312	3.000	6	C	●
ECI-6 312-1C010VF3	.312	1.0000	1.0000	.0100	.312	3.000	6	C	●
ECI-6 312-1C015VF3	.312	1.0000	1.0000	.0150	.312	3.000	6	C	●
ECI-6 312-1C030VF3	.312	1.0000	1.0000	.0300	.312	3.000	6	C	●
ECI-6 312-1.5C0VF4	.312	1.5000	1.5000	0	.312	4.000	6	C	●
ECI-6 312-1.5C010VF4	.312	1.5000	1.5000	.0100	.312	4.000	6	C	●
ECI-6 312-1.5C015VF4	.312	1.5000	1.5000	.0150	.312	4.000	6	C	●
ECI-6 312-1.5C030VF4	.312	1.5000	1.5000	.0300	.312	4.000	6	C	●
ECI-6 375-500C0VF2	.375	.5000	.5000	0	.375	2.000	6	C	●
ECI-6 375-500C010VF2	.375	.5000	.5000	.0100	.375	2.000	6	C	●
ECI-6 375-500C015VF2	.375	.5000	.5000	.0150	.375	2.000	6	C	●
ECI-6 375-500C030VF2	.375	.5000	.5000	.0300	.375	2.000	6	C	●
ECI-6 375-500C060VF2	.375	.5000	.5000	.0600	.375	2.000	6	C	●
ECI-6 375-500C090VF2	.375	.5000	.5000	.0900	.375	2.000	6	C	●
ECI-6 375-500C125VF2	.375	.5000	.5000	.1250	.375	2.000	6	C	●
ECI-6 375-750/2.125C0VF4	.375	.7500	2.1250	0	.375	4.000	6	C	●
ECI-6 375-750/2.13C010VF4	.375	.7500	2.1250	.0100	.375	4.000	6	C	●
ECI-6 375-750/2.13C015VF4	.375	.7500	2.1300	.0150	.375	4.000	6	C	●
ECI-6 375-750/2.13C030VF4	.375	.7500	2.1300	.0300	.375	4.000	6	C	●
ECI-6 375-750/2.13C060VF4	.375	.7500	2.1300	.0600	.375	4.000	6	C	●
ECI-6 375-1C0VF2.5	.375	1.0000	1.0000	0	.375	2.500	6	C	●
ECI-6 375-1C0VF3	.375	1.0000	1.0000	0	.375	3.000	6	C	●
ECI-6 375-1C015VF2.5	.375	1.0000	1.0000	.0150	.375	2.500	6	C	●
ECI-6 375-1C015VF3	.375	1.0000	1.0000	.0150	.375	3.000	6	C	●
ECI-6 375-1C030VF2.5	.375	1.0000	1.0000	.0300	.375	2.500	6	C	●
ECI-6 375-1C030VF3	.375	1.0000	1.0000	.0300	.375	3.000	6	C	●

<sup>(1)</sup> Number of flutes

**ECI-6-VF** Continued

6 Flute Endmill With and Without Relieved Neck, Assorted Radii and Variable Pitch for Chatter Dampening

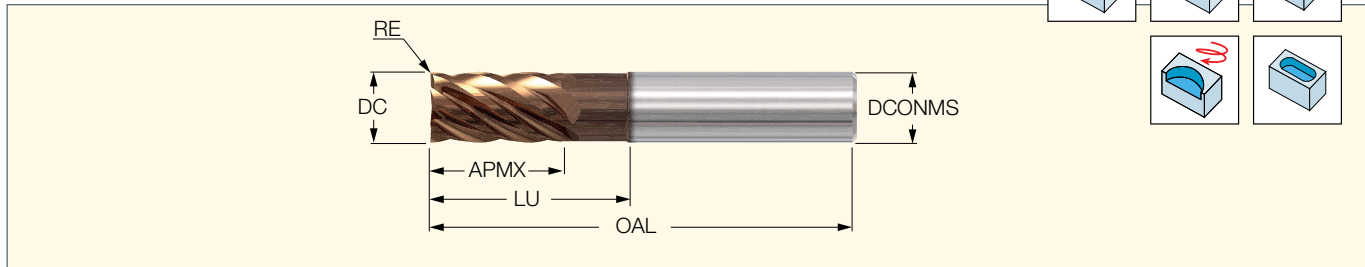
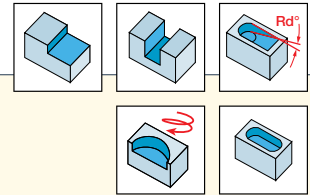


Designation	Dimensions								IC608
	DC	APMX	LU	RE	DCONMS	OAL	NOF <sup>(1)</sup>	Shank	
ECI-6 375-1C060VF2.5	.375	1.0000	1.0000	.0600	.375	2.500	6	C	●
ECI-6 375-1C060VF3	.375	1.0000	1.0000	.0600	.375	3.000	6	C	●
ECI-6 375-1C090VF2.5	.375	1.0000	1.0000	.0900	.375	2.500	6	C	●
ECI-6 375-1C090VF3	.375	1.0000	1.0000	.0900	.375	3.000	6	C	●
ECI-6 375-1C125VF2.5	.375	1.0000	1.0000	.1250	.375	2.500	6	C	●
ECI-6 375-1C125VF3	.375	1.0000	1.0000	.1250	.375	3.000	6	C	●
ECI-6 375-1.5C0VF4	.375	1.5000	1.5000	0	.375	4.000	6	C	●
ECI-6 375-1.5C015VF4	.375	1.5000	1.5000	.0150	.375	4.000	6	C	●
ECI-6 375-1.5C030VF4	.375	1.5000	1.5000	.0300	.375	4.000	6	C	●
ECI-6 375-1.5C060VF4	.375	1.5000	1.5000	.0600	.375	4.000	6	C	●
ECI-6 375-1.5C090VF4	.375	1.5000	1.5000	.0900	.375	4.000	6	C	●
ECI-6 375-1.5C125VF4	.375	1.5000	1.5000	.1250	.375	4.000	6	C	●
ECI-6 500-625C0VF2.5	.500	.6250	.6250	0	.500	2.500	6	C	●
ECI-6 500-625C010VF2.5	.500	.6250	.6250	.0100	.500	2.500	6	C	●
ECI-6 500-625C015VF2.5	.500	.6250	.6250	.0150	.500	2.500	6	C	●
ECI-6 500-625C030VF2.5	.500	.6250	.6250	.0300	.500	2.500	6	C	●
ECI-6 500-625C060VF2.5	.500	.6250	.6250	.0600	.500	2.500	6	C	●
ECI-6 500-625C090VF2.5	.500	.6250	.6250	.0900	.500	2.500	6	C	●
ECI-6 500-625C125VF2.5	.500	.6250	.6250	.1250	.500	2.500	6	C	●
ECI-6 500-875/1.375C0VF3	.500	.8750	1.3750	0	.500	3.000	6	C	●
ECI-6 500-875/1.38C015VF3	.500	.8750	1.3800	.0150	.500	3.000	6	C	●
ECI-6 500-875/1.38C030VF3	.500	.8750	1.3800	.0300	.500	3.000	6	C	●
ECI-6 500-875/1.38C060VF3	.500	.8750	1.3800	.0600	.500	3.000	6	C	●
ECI-6 500-875/1.38C090VF3	.500	.8750	1.3800	.0900	.500	3.000	6	C	●
ECI-6 500-875/1.38C125VF3	.500	.8750	1.3800	.1250	.500	3.000	6	C	●
ECI-6 500-875/2.125C0VF4	.500	.8750	2.1250	0	.500	4.000	6	C	●
ECI-6 500-875/2.13C015VF4	.500	.8750	2.1300	.0150	.500	4.000	6	C	●
ECI-6 500-875/2.13C030VF4	.500	.8750	2.1300	.0300	.500	4.000	6	C	●
ECI-6 500-875/2.13C060VF4	.500	.8750	2.1300	.0600	.500	4.000	6	C	●
ECI-6 500-875/2.13C090VF4	.500	.8750	2.1300	.0900	.500	4.000	6	C	●
ECI-6 500-875/2.13C125VF4	.500	.8750	2.1300	.1250	.500	4.000	6	C	●
ECI-6 500-875/3.125C0VF5	.500	.8750	3.1250	0	.500	5.000	6	C	●
ECI-6 500-875/3.13C015VF5	.500	.8750	3.1250	.0150	.500	5.000	6	C	●
ECI-6 500-875/3.13C030VF5	.500	.8750	3.1250	.0300	.500	5.000	6	C	●
ECI-6 500-875/3.13C060VF5	.500	.8750	3.1250	.0600	.500	5.000	6	C	●
ECI-6 500-875/3.13C090VF5	.500	.8750	3.1250	.0900	.500	5.000	6	C	●
ECI-6 500-875/3.13C125VF5	.500	.8750	3.1250	.1250	.500	5.000	6	C	●
ECI-6 500-875/4.125C0VF6	.500	.8750	4.1250	0	.500	6.000	6	C	●
ECI-6 500-875/4.13C015VF6	.500	.8750	4.1250	.0150	.500	6.000	6	C	●
ECI-6 500-875/4.13C030VF6	.500	.8750	4.1250	.0300	.500	6.000	6	C	●
ECI-6 500-875/4.13C060VF6	.500	.8750	4.1250	.0600	.500	6.000	6	C	●
ECI-6 500-875/4.13C090VF6	.500	.8750	4.1250	.0900	.500	6.000	6	C	●
ECI-6 500-875/4.13C125VF6	.500	.8750	4.1250	.1250	.500	6.000	6	C	●
ECI-6 500-1.25C0VF3	.500	1.2500	1.2500	0	.500	3.000	6	C	●
ECI-6 500-1.25C010VF3	.500	1.2500	1.2500	.0100	.500	3.000	6	C	●
ECI-6 500-1.25C015VF3	.500	1.2500	1.2500	.0150	.500	3.000	6	C	●
ECI-6 500-1.25C030VF3	.500	1.2500	1.2500	.0300	.500	3.000	6	C	●
ECI-6 500-1.25C060VF3	.500	1.2500	1.2500	.0600	.500	3.000	6	C	●
ECI-6 500-1.25C090VF3	.500	1.2500	1.2500	.0900	.500	3.000	6	C	●

<sup>(1)</sup> Number of flutes

**ECI-6-VF** Continued

6 Flute Endmill With and Without Relieved Neck, Assorted Radii and Variable Pitch for Chatter Dampening



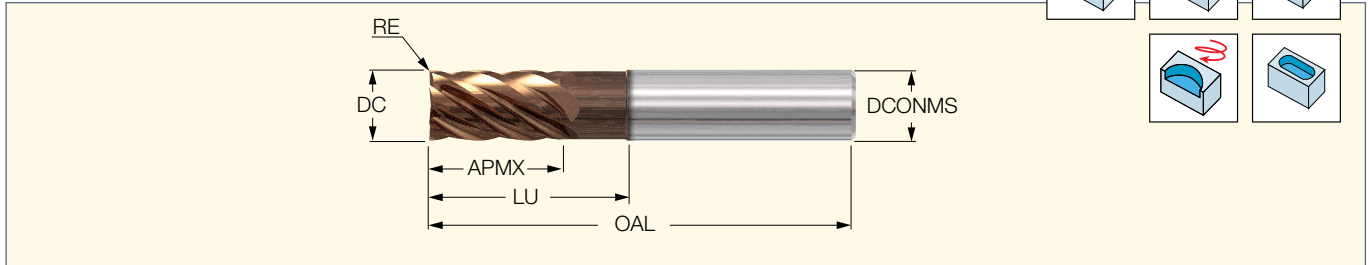
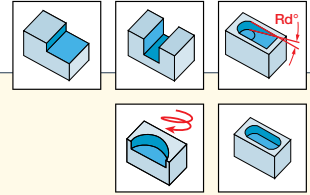
Designation	Dimensions								IC608
	DC	APMX	LU	RE	DCONMS	OAL	NOF <sup>(1)</sup>	Shank	
ECI-6 500-1.25C125VF3	.500	1.2500	1.2500	.1250	.500	3.000	6	C	●
ECI-6 500-1.62C0VF4	.500	1.6250	1.6250	0	.500	4.000	6	C	●
ECI-6 500-1.62C015VF4	.500	1.6250	1.6250	.0150	.500	4.000	6	C	●
ECI-6 500-1.62C030VF4	.500	1.6250	1.6250	.0300	.500	4.000	6	C	●
ECI-6 500-1.62C060VF4	.500	1.6250	1.6250	.0600	.500	4.000	6	C	●
ECI-6 500-1.62C090VF4	.500	1.6250	1.6250	.0900	.500	4.000	6	C	●
ECI-6 500-1.62C125VF4	.500	1.6250	1.6250	.1250	.500	4.000	6	C	●
ECI-6 500-2C0VF4	.500	2.0000	2.0000	0	.500	4.000	6	C	●
ECI-6 500-2C015VF4	.500	2.0000	2.0000	.0150	.500	4.000	6	C	●
ECI-6 500-2C030VF4	.500	2.0000	2.0000	.0300	.500	4.000	6	C	●
ECI-6 500-2C060VF4	.500	2.0000	2.0000	.0600	.500	4.000	6	C	●
ECI-6 500-2C090VF4	.500	2.0000	2.0000	.0900	.500	4.000	6	C	●
ECI-6 500-2C125VF4	.500	2.0000	2.0000	.1250	.500	4.000	6	C	●
ECI-6 500-2.5C0VF5	.500	2.5000	2.5000	0	.500	5.000	6	C	●
ECI-6 500-2.5C015VF5	.500	2.5000	2.5000	.0150	.500	5.000	6	C	●
ECI-6 500-2.5C030VF5	.500	2.5000	2.5000	.0300	.500	5.000	6	C	●
ECI-6 500-2.5C060VF5	.500	2.5000	2.5000	.0600	.500	5.000	6	C	●
ECI-6 500-2.5C090VF5	.500	2.5000	2.5000	.0900	.500	5.000	6	C	●
ECI-6 500-2.5C125VF5	.500	2.5000	2.5000	.1250	.500	5.000	6	C	●
ECI-6 500-3.12C0VF6	.500	3.1250	3.1250	0	.500	6.000	6	C	●
ECI-6 500-3.12C015VF6	.500	3.1250	3.1250	.0150	.500	6.000	6	C	●
ECI-6 500-3.12C030VF6	.500	3.1250	3.1250	.0300	.500	6.000	6	C	●
ECI-6 500-3.12C060VF6	.500	3.1250	3.1250	.0600	.500	6.000	6	C	●
ECI-6 500-3.12C090VF6	.500	3.1250	3.1250	.0900	.500	6.000	6	C	●
ECI-6 500-3.12C125VF6	.500	3.1250	3.1250	.1250	.500	6.000	6	C	●
ECI-6 625-750C0VF3	.625	.7500	.7500	0	.625	3.000	6	C	●
ECI-6 625-750C010VF3	.625	.7500	.7500	.0100	.625	3.000	6	C	●
ECI-6 625-750C015VF3	.625	.7500	.7500	.0150	.625	3.000	6	C	●
ECI-6 625-750C030VF3	.625	.7500	.7500	.0300	.625	3.000	6	C	●
ECI-6 625-750C060VF3	.625	.7500	.7500	.0600	.625	3.000	6	C	●
ECI-6 625-750C090VF3	.625	.7500	.7500	.0900	.625	3.000	6	C	●
ECI-6 625-750C125VF3	.625	.7500	.7500	.1250	.625	3.000	6	C	●
ECI-6 625-1/2C0VF4	.625	1.0000	2.0000	0	.625	4.000	6	C	●
ECI-6 625-1/2C015VF4	.625	1.0000	2.0000	.0150	.625	4.000	6	C	●
ECI-6 625-1/2C030VF4	.625	1.0000	2.0000	.0300	.625	4.000	6	C	●
ECI-6 625-1/2C060VF4	.625	1.0000	2.0000	.0600	.625	4.000	6	C	●
ECI-6 625-1/2C090VF4	.625	1.0000	2.0000	.0900	.625	4.000	6	C	●
ECI-6 625-1/2C125VF4	.625	1.0000	2.0000	.1250	.625	4.000	6	C	●
ECI-6 625-1/3C0VF5	.625	1.0000	3.0000	0	.625	5.000	6	C	●
ECI-6 625-1/3C015VF5	.625	1.0000	3.0000	.0150	.625	5.000	6	C	●
ECI-6 625-1/3C030VF5	.625	1.0000	3.0000	.0300	.625	5.000	6	C	●
ECI-6 625-1/3C060VF5	.625	1.0000	3.0000	.0600	.625	5.000	6	C	●
ECI-6 625-1/3C090VF5	.625	1.0000	3.0000	.0900	.625	5.000	6	C	●
ECI-6 625-1/3C125VF5	.625	1.0000	3.0000	.1250	.625	5.000	6	C	●
ECI-6 625-1/4C0VF6	.625	1.0000	4.0000	0	.625	6.000	6	C	●
ECI-6 625-1/4C015VF6	.625	1.0000	4.0000	.0150	.625	6.000	6	C	●
ECI-6 625-1/4C030VF6	.625	1.0000	4.0000	.0300	.625	6.000	6	C	●
ECI-6 625-1/4C060VF6	.625	1.0000	4.0000	.0600	.625	6.000	6	C	●
ECI-6 625-1/4C090VF6	.625	1.0000	4.0000	.0900	.625	6.000	6	C	●
ECI-6 625-1/4C125VF6	.625	1.0000	4.0000	.1250	.625	6.000	6	C	●

<sup>(1)</sup> Number of flutes



**ECI-6-VF** Continued

6 Flute Endmill With and Without Relieved Neck, Assorted Radii and Variable Pitch for Chatter Dampening

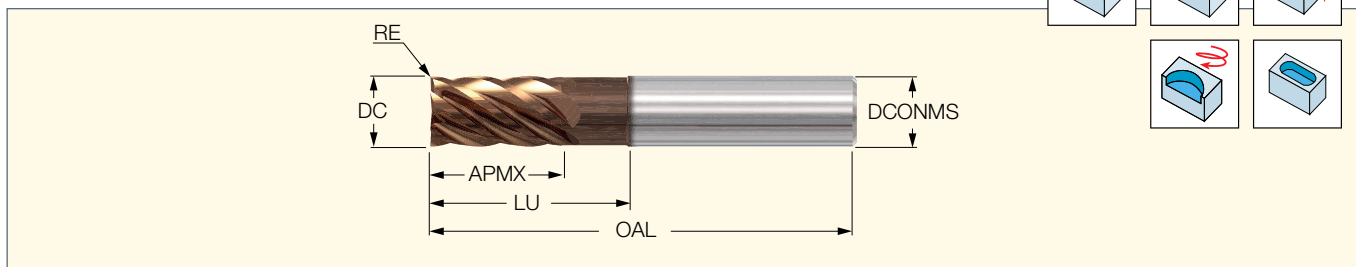
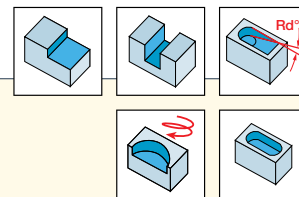


Designation	Dimensions								IC608
	DC	APMX	LU	RE	DCONMS	OAL	NOF <sup>(1)</sup>	Shank	
ECI-6 625-1.62C0VF3.5	.625	1.6250	1.6250	0	.625	3.500	6	C	●
ECI-6 625-1.62C015VF3.5	.625	1.6250	1.6250	.0150	.625	3.500	6	C	●
ECI-6 625-1.62C030VF3.5	.625	1.6250	1.6250	.0300	.625	3.500	6	C	●
ECI-6 625-1.62C060VF3.5	.625	1.6250	1.6250	.0600	.625	3.500	6	C	●
ECI-6 625-1.62C090VF3.5	.625	1.6250	1.6250	.0900	.625	3.500	6	C	●
ECI-6 625-1.62C125VF3.5	.625	1.6250	1.6250	.1250	.625	3.500	6	C	●
ECI-6 625-1.62C010VF3.5	.625	1.6300	1.6300	.0100	.625	3.500	6	C	●
ECI-6 625-2.5C0VF5	.625	2.5000	2.5000	0	.625	5.000	6	C	●
ECI-6 625-2.5C015VF5	.625	2.5000	2.5000	.0150	.625	5.000	6	C	●
ECI-6 625-2.5C030VF5	.625	2.5000	2.5000	.0300	.625	5.000	6	C	●
ECI-6 625-2.5C060VF5	.625	2.5000	2.5000	.0600	.625	5.000	6	C	●
ECI-6 625-2.5C090VF5	.625	2.5000	2.5000	.0900	.625	5.000	6	C	●
ECI-6 625-2.5C125VF5	.625	2.5000	2.5000	.1250	.625	5.000	6	C	●
ECI-6 625-3C0VF6	.625	3.0000	3.0000	0	.625	6.000	6	C	●
ECI-6 625-3C015VF6	.625	3.0000	3.0000	.0150	.625	6.000	6	C	●
ECI-6 625-3C030VF6	.625	3.0000	3.0000	.0300	.625	6.000	6	C	●
ECI-6 625-3C060VF6	.625	3.0000	3.0000	.0600	.625	6.000	6	C	●
ECI-6 625-3C090VF6	.625	3.0000	3.0000	.0900	.625	6.000	6	C	●
ECI-6 625-3C125VF6	.625	3.0000	3.0000	.1250	.625	6.000	6	C	●
ECI-6 750-1C0VF3	.750	1.0000	1.0000	0	.750	3.000	6	C	●
ECI-6 750-1C010VF3	.750	1.0000	1.0000	.0100	.750	3.000	6	C	●
ECI-6 750-1C015VF3	.750	1.0000	1.0000	.0150	.750	3.000	6	C	●
ECI-6 750-1C030VF3	.750	1.0000	1.0000	.0300	.750	3.000	6	C	●
ECI-6 750-1C060VF3	.750	1.0000	1.0000	.0600	.750	3.000	6	C	●
ECI-6 750-1C090VF3	.750	1.0000	1.0000	.0900	.750	3.000	6	C	●
ECI-6 750-1C125VF3	.750	1.0000	1.0000	.1250	.750	3.000	6	C	●
ECI-6 750-1.25/2C0VF4	.750	1.2500	2.0000	0	.750	4.000	6	C	●
ECI-6 750-1.25/2C015VF4	.750	1.2500	2.0000	.0150	.750	4.000	6	C	●
ECI-6 750-1.25/2C030VF4	.750	1.2500	2.0000	.0300	.750	4.000	6	C	●
ECI-6 750-1.25/2C060VF4	.750	1.2500	2.0000	.0600	.750	4.000	6	C	●
ECI-6 750-1.25/2C090VF4	.750	1.2500	2.0000	.0900	.750	4.000	6	C	●
ECI-6 750-1.25/2C125VF4	.750	1.2500	2.0000	.1250	.750	4.000	6	C	●
ECI-6 750-1.25/3C0VF5	.750	1.2500	3.0000	0	.750	5.000	6	C	●
ECI-6 750-1.25/3C015VF5	.750	1.2500	3.0000	.0150	.750	5.000	6	C	●
ECI-6 750-1.25/3C030VF5	.750	1.2500	3.0000	.0300	.750	5.000	6	C	●
ECI-6 750-1.25/3C060VF5	.750	1.2500	3.0000	.0600	.750	5.000	6	C	●
ECI-6 750-1.25/3C090VF5	.750	1.2500	3.0000	.0900	.750	5.000	6	C	●
ECI-6 750-1.25/3C125VF5	.750	1.2500	3.0000	.1250	.750	5.000	6	C	●
ECI-6 750-1.25/4C0VF6	.750	1.2500	4.0000	0	.750	6.000	6	C	●
ECI-6 750-1.25/4C015VF6	.750	1.2500	4.0000	.0150	.750	6.000	6	C	●
ECI-6 750-1.25/4C030VF6	.750	1.2500	4.0000	.0300	.750	6.000	6	C	●
ECI-6 750-1.25/4C060VF6	.750	1.2500	4.0000	.0600	.750	6.000	6	C	●
ECI-6 750-1.25/4C090VF6	.750	1.2500	4.0000	.0900	.750	6.000	6	C	●
ECI-6 750-1.25/4C125VF6	.750	1.2500	4.0000	.1250	.750	6.000	6	C	●
ECI-6 750-1.62C0VF4	.750	1.6250	1.6250	0	.750	4.000	6	C	●
ECI-6 750-1.62C015VF4	.750	1.6250	1.6250	.0150	.750	4.000	6	C	●
ECI-6 750-1.62C030VF4	.750	1.6250	1.6250	.0300	.750	4.000	6	C	●
ECI-6 750-1.62C060VF4	.750	1.6250	1.6250	.0600	.750	4.000	6	C	●
ECI-6 750-1.62C090VF4	.750	1.6250	1.6250	.0900	.750	4.000	6	C	●
ECI-6 750-1.62C125VF4	.750	1.6250	1.6250	.1250	.750	4.000	6	C	●

<sup>(1)</sup> Number of flutes

**ECI-6-VF Continued**

6 Flute Endmill With and Without Relieved Neck, Assorted Radii and Variable Pitch for Chatter Dampening

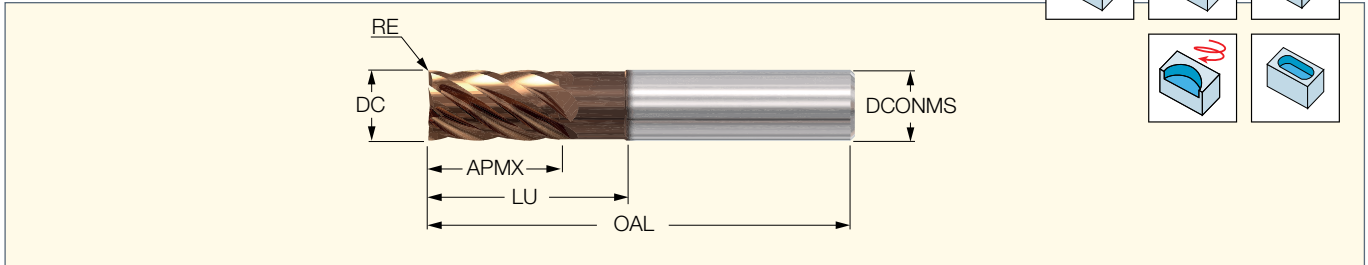
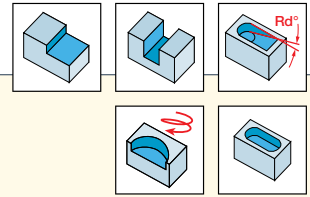


Designation	Dimensions								IC608
	DC	APMX	LU	RE	DCONMS	OAL	NOF <sup>(1)</sup>	Shank	
ECI-6 750-2.25C0VF5	.750	2.2500	2.2500	0	.750	5.000	6	C	●
ECI-6 750-2.25C015VF5	.750	2.2500	2.2500	.0150	.750	5.000	6	C	●
ECI-6 750-2.25C030VF5	.750	2.2500	2.2500	.0300	.750	5.000	6	C	●
ECI-6 750-2.25C060VF5	.750	2.2500	2.2500	.0600	.750	5.000	6	C	●
ECI-6 750-2.25C090VF5	.750	2.2500	2.2500	.0900	.750	5.000	6	C	●
ECI-6 750-2.25C125VF5	.750	2.2500	2.2500	.1250	.750	5.000	6	C	●
ECI-6 750-2.25C010VF5	.750	2.3000	2.3000	.0100	.750	5.000	6	C	●
ECI-6 750-3.25C0VF6	.750	3.2500	3.2500	0	.750	6.000	6	C	●
ECI-6 750-3.25C015VF6	.750	3.2500	3.2500	.0150	.750	6.000	6	C	●
ECI-6 750-3.25C030VF6	.750	3.2500	3.2500	.0300	.750	6.000	6	C	●
ECI-6 750-3.25C060VF6	.750	3.2500	3.2500	.0600	.750	6.000	6	C	●
ECI-6 750-3.25C090VF6	.750	3.2500	3.2500	.0900	.750	6.000	6	C	●
ECI-6 750-3.25C125VF6	.750	3.2500	3.2500	.1250	.750	6.000	6	C	●
ECI-6 750-4.12C0VF7	.750	4.1250	4.1250	0	.750	7.000	6	C	●
ECI-6 750-4.12C015VF7	.750	4.1250	4.1250	.0150	.750	7.000	6	C	●
ECI-6 750-4.12C030VF7	.750	4.1250	4.1250	.0300	.750	7.000	6	C	●
ECI-6 750-4.12C060VF7	.750	4.1250	4.1250	.0600	.750	7.000	6	C	●
ECI-6 750-4.12C090VF7	.750	4.1250	4.1250	.0900	.750	7.000	6	C	●
ECI-6 750-4.12C125VF7	.750	4.1250	4.1250	.1250	.750	7.000	6	C	●
ECI-6 1-1.5/3C0VF5	1.000	1.5000	3.0000	0	1.000	5.000	6	C	●
ECI-6 1-1.5/3C015VF5	1.000	1.5000	3.0000	.0150	1.000	5.000	6	C	●
ECI-6 1-1.5/3C030VF5	1.000	1.5000	3.0000	.0300	1.000	5.000	6	C	●
ECI-6 1-1.5/3C060VF5	1.000	1.5000	3.0000	.0600	1.000	5.000	6	C	●
ECI-6 1-1.5/3C090VF5	1.000	1.5000	3.0000	.0900	1.000	5.000	6	C	●
ECI-6 1-1.5/3C125VF5	1.000	1.5000	3.0000	.1250	1.000	5.000	6	C	●
ECI-6 1-1.5/4C0VF6	1.000	1.5000	4.0000	0	1.000	6.000	6	C	●
ECI-6 1-1.5/4C015VF6	1.000	1.5000	4.0000	.0150	1.000	6.000	6	C	●
ECI-6 1-1.5/4C030VF6	1.000	1.5000	4.0000	.0300	1.000	6.000	6	C	●
ECI-6 1-1.5/4C060VF6	1.000	1.5000	4.0000	.0600	1.000	6.000	6	C	●
ECI-6 1-1.5/4C090VF6	1.000	1.5000	4.0000	.0900	1.000	6.000	6	C	●
ECI-6 1-1.5/4C125VF6	1.000	1.5000	4.0000	.1250	1.000	6.000	6	C	●
ECI-6 1-1.5/5C0VF7	1.000	1.5000	5.0000	0	1.000	7.000	6	C	●
ECI-6 1-1.5/5C015VF7	1.000	1.5000	5.0000	.0150	1.000	7.000	6	C	●
ECI-6 1-1.5/5C030VF7	1.000	1.5000	5.0000	.0300	1.000	7.000	6	C	●
ECI-6 1-1.5/5C060VF7	1.000	1.5000	5.0000	.0600	1.000	7.000	6	C	●
ECI-6 1-1.5/5C090VF7	1.000	1.5000	5.0000	.0900	1.000	7.000	6	C	●
ECI-6 1-1.5/5C125VF7	1.000	1.5000	5.0000	.1250	1.000	7.000	6	C	●
ECI-6 1-1.5C0VF4	1.000	1.5000	1.5000	0	1.000	4.000	6	C	●
ECI-6 1-1.5C015VF4	1.000	1.5000	1.5000	.0150	1.000	4.000	6	C	●
ECI-6 1-1.5C030VF4	1.000	1.5000	1.5000	.0300	1.000	4.000	6	C	●
ECI-6 1-1.5C060VF4	1.000	1.5000	1.5000	.0600	1.000	4.000	6	C	●
ECI-6 1-1.5C090VF4	1.000	1.5000	1.5000	.0900	1.000	4.000	6	C	●
ECI-6 1-1.5C125VF4	1.000	1.5000	1.5000	.1250	1.000	4.000	6	C	●
ECI-6 1-2C0VF4.5	1.000	2.0000	2.0000	0	1.000	4.500	6	C	●
ECI-6 1-2C015VF4.5	1.000	2.0000	2.0000	.0150	1.000	4.500	6	C	●
ECI-6 1-2C030VF4.5	1.000	2.0000	2.0000	.0300	1.000	4.500	6	C	●
ECI-6 1-2C060VF4.5	1.000	2.0000	2.0000	.0600	1.000	4.500	6	C	●
ECI-6 1-2C090VF4.5	1.000	2.0000	2.0000	.0900	1.000	4.500	6	C	●
ECI-6 1-2C125VF4.5	1.000	2.0000	2.0000	.1250	1.000	4.500	6	C	●
ECI-6 1-2.25C0VF5	1.000	2.2500	2.2500	0	1.000	5.000	6	C	●

<sup>(1)</sup> Number of flutes

**ECI-6-VF** Continued

6 Flute Endmill With and Without Relieved Neck, Assorted Radii and Variable Pitch for Chatter Dampening



Designation	Dimensions								IC608
	DC	APMX	LU	RE	DCONMS	OAL	NOF <sup>(1)</sup>	Shank	
ECI-6 1-2.25C015VF5	1.000	2.2500	2.2500	.0150	1.000	5.000	6	C	●
ECI-6 1-2.25C030VF5	1.000	2.2500	2.2500	.0300	1.000	5.000	6	C	●
ECI-6 1-2.25C060VF5	1.000	2.2500	2.2500	.0600	1.000	5.000	6	C	●
ECI-6 1-2.25C090VF5	1.000	2.2500	2.2500	.0900	1.000	5.000	6	C	●
ECI-6 1-2.25C125VF5	1.000	2.2500	2.2500	.1250	1.000	5.000	6	C	●
ECI-6 1-3.25C0VF6	1.000	3.2500	3.2500	0	1.000	6.000	6	C	●
ECI-6 1-3.25C015VF6	1.000	3.2500	3.2500	.0150	1.000	6.000	6	C	●
ECI-6 1-3.25C030VF6	1.000	3.2500	3.2500	.0300	1.000	6.000	6	C	●
ECI-6 1-3.25C060VF6	1.000	3.2500	3.2500	.0600	1.000	6.000	6	C	●
ECI-6 1-3.25C090VF6	1.000	3.2500	3.2500	.0900	1.000	6.000	6	C	●
ECI-6 1-3.25C125VF6	1.000	3.2500	3.2500	.1250	1.000	6.000	6	C	●
ECI-6 1-4.12C0VF7	1.000	4.1250	4.1250	0	1.000	7.000	6	C	●
ECI-6 1-4.12C015VF7	1.000	4.1250	4.1250	.0150	1.000	7.000	6	C	●
ECI-6 1-4.12C030VF7	1.000	4.1250	4.1250	.0300	1.000	7.000	6	C	●
ECI-6 1-4.12C060VF7	1.000	4.1250	4.1250	.0600	1.000	7.000	6	C	●
ECI-6 1-4.12C090VF7	1.000	4.1250	4.1250	.0900	1.000	7.000	6	C	●
ECI-6 1-4.12C125VF7	1.000	4.1250	4.1250	.1250	1.000	7.000	6	C	●

<sup>(1)</sup> Number of flutes

# Roughing

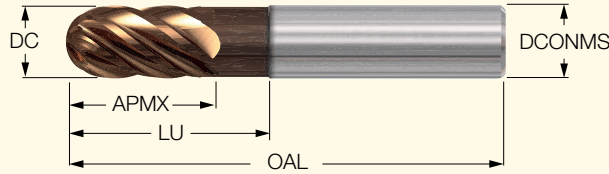
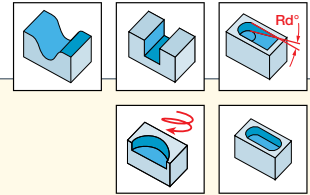
ISO	Material Group No.	Material	Condition	Cutting Speed Recommendations V <sub>c</sub> (SFM)	Hardness HB	Feed (IPT) per Cutting Diameter (inch)								Roughing		
						3/16	1/4	5/16	3/8	1/2	5/8	3/4	1	a <sub>p</sub>	a <sub>e</sub>	
P	1	Non-alloy steel and cast steel, free cutting steel	<0.25% C	Annealed	890-960	125	.0008-.0015	.001-.002	.0013-.0025	.0015-.003	.002-.004	.0025-.005	.003-.006	.004-.008	3xD	.12xD
	2		≥0.25% C	Annealed	710-815	190	.0008-.0015	.001-.002	.0013-.0025	.0015-.003	.002-.004	.0025-.005	.003-.006	.004-.008	3xD	.12xD
	3		<0.55% C	Quenched & tempered	570-780	250	.0008-.0015	.001-.002	.0013-.0025	.0015-.003	.002-.004	.0025-.005	.003-.006	.004-.008	3xD	.12xD
	4		≥0.55% C	Annealed	570-780	220	.0008-.0015	.001-.002	.0013-.0025	.0015-.003	.002-.004	.0025-.005	.003-.006	.004-.008	3xD	.12xD
	5			Quenched & tempered	500-635	300	.0008-.0015	.001-.002	.0013-.0025	.0015-.003	.002-.004	.0025-.005	.003-.006	.004-.008	3xD	.12xD
	6	Low alloy & cast steel (less than 5% of alloying elements)	Annealed	570-780	200	.0007-.0014	.001-.0019	.0013-.0023	.0014-.0028	.002-.0038	.0026-.0046	.0028-.0056	.004-.0076	3xD	.10xD	
	7		Quenched & tempered	425-635	275	.0007-.0014	.001-.0019	.0013-.0023	.0014-.0028	.002-.0038	.0026-.0046	.0028-.0056	.004-.0076	3xD	.10xD	
	8		Quenched & tempered	450-635	300	.0007-.0014	.001-.0019	.0013-.0023	.0014-.0028	.002-.0038	.0026-.0046	.0028-.0056	.004-.0076	3xD	.10xD	
	9		Quenched & tempered	500-635	350	.0007-.0014	.001-.0019	.0013-.0023	.0014-.0028	.002-.0038	.0026-.0046	.0028-.0056	.004-.0076	3xD	.10xD	
	10	High alloyed steel, cast steel and tool steel	Annealed	450-635	200	.0007-.0014	.001-.0019	.0013-.0023	.0014-.0028	.002-.0038	.0026-.0046	.0028-.0056	.004-.0076	3xD	.10xD	
	11		Quenched & tempered	240-425	325	.0009-.0016	.0012-.0022	.0015-.0028	.0018-.0032	.0024-.0044	.003-.0056	.0036-.0064	.0048-.0088	3xD	.07xD	
	12	Stainless steel and cast steel	Ferritic/martensitic	280-570	200	.0009-.0016	.0012-.0022	.0015-.0028	.0018-.0032	.0024-.0044	.003-.0056	.0036-.0064	.0048-.0088	3xD	.07xD	
	13		Martensitic	210-530	240	.0009-.0016	.0012-.0022	.0015-.0028	.0018-.0032	.0024-.0044	.003-.0056	.0036-.0064	.0048-.0088	3xD	.07xD	
M	14	Stainless steel and cast steel	Austenitic, duplex	210-425	180	.0008-.0015	.0011-.0021	.0013-.0025	.0016-.003	.0022-.0042	.0025-.005	.0032-.006	.0044-.0084	3xD	.08xD	
K	15	Grey cast iron (GG)	Ferritic / pearlitic	280-890	180	.0007-.0014	.001-.0019	.0013-.0023	.0014-.0028	.002-.0038	.0026-.0046	.0028-.0056	.004-.0076	3xD	.10xD	
	16		Pearlitic/ martensitic	450-850	260	.0007-.0014	.001-.0019	.0013-.0023	.0014-.0028	.002-.0038	.0026-.0046	.0028-.0056	.004-.0076	3xD	.10xD	
	17	Nodular cast iron (GGG)	Ferritic	530-960	160	.0007-.0014	.001-.0019	.0013-.0023	.0014-.0028	.002-.0038	.0026-.0046	.0028-.0056	.004-.0076	3xD	.10xD	
	18		Pearlitic	530-960	250	.0007-.0014	.001-.0019	.0013-.0023	.0014-.0028	.002-.0038	.0026-.0046	.0028-.0056	.004-.0076	3xD	.10xD	
	19	Malleable cast iron	Ferritic	530-960	130	.0007-.0014	.001-.0019	.0013-.0023	.0014-.0028	.002-.0038	.0026-.0046	.0028-.0056	.004-.0076	3xD	.10xD	
	20		Pearlitic	500-850	230	.0007-.0014	.001-.0019	.0013-.0023	.0014-.0028	.002-.0038	.0026-.0046	.0028-.0056	.004-.0076	3xD	.10xD	
S	31	Fe based	Annealed	125-200	200	.0009-.0016	.0012-.0022	.0015-.0028	.0018-.0032	.0024-.0044	.003-.0056	.0036-.0064	.0048-.0088	3xD	.07xD	
	32		Hardened	125-200	280	.0009-.0016	.0012-.0022	.0015-.0028	.0018-.0032	.0024-.0044	.003-.0056	.0036-.0064	.0048-.0088	3xD	.07xD	
	33	High temp. alloys	Annealed	70-125	250	.001-.0018	.0013-.0024	.0013-.0025	.002-.0036	.0026-.0048	.0025-.005	.004-.0072	.0052-.0096	3xD	.06xD	
	34		Ni or Co based	Hardened	70-125	350	.001-.0018	.0013-.0024	.0013-.0025	.002-.0036	.0026-.0048	.0025-.005	.004-.0072	.0052-.0096	3xD	.06xD
	35			Cast	70-125	320	.001-.0018	.0013-.0024	.0013-.0025	.002-.0036	.0026-.0048	.0025-.005	.004-.0072	.0052-.0096	3xD	.06xD
	36	Titanium alloys	Pure	325	190	.001-.0018	.0013-.0024	.0013-.0025	.002-.0036	.0026-.0048	.0025-.005	.004-.0072	.0052-.0096	3xD	.06xD	
37	Alpha+Beta alloys, hardened		165-325	310	.0007-.0014	.001-.0019	.0013-.0023	.0014-.0028	.002-.0038	.0026-.0046	.0028-.0056	.004-.0076	3xD	.10xD		
H	38	Hardened steel	Hardened	110-210	55 HRC	.0012-.0021	.0016-.0029	.002-.0036	.0024-.0042	.0032-.0058	.004-.0072	.0048-.0084	.0064-.0116	3xD	.04xD	
	39		Hardened	110-145	60 HRC	.0016-.003	.0022-.004	.0028-.005	.0032-.006	.0044-.008	.0056-.010	.0064-.012	.0088-.016	3xD	.02xD	
	40	Chilled cast iron	Cast	250-320	400	.001-.0019	.0014-.0026	.0018-.0032	.002-.0038	.0028-.0052	.0036-.0064	.004-.0076	.0056-.0104	3xD	.05xD	
	41	Cast iron	Hardened	110-210	55 HRC	.0012-.0021	.0016-.0029	.002-.0036	.0024-.0042	.0032-.0058	.004-.0072	.0048-.0084	.0064-.0116	3xD	.04xD	

## Semi-Finish and Finishing

ISO	Material Group No.	Material	Condition	Cutting Speed Recommendations V <sub>c</sub> (SFM)	Hardness HB	Feed (IPT) per Cutting Diameter (inch)								Finishing		
						3/16	1/4	5/16	3/8	1/2	5/8	3/4	1	a <sub>p</sub>	a <sub>e</sub>	
P	1	Non-alloy steel and cast steel, free cutting steel	<0.25% C	Annealed	1020-1100	125	.0017	.0022	.0028	.0033	.0044	.0055	.0066	.0088	Full	.02xD
	2		≥0.25% C	Annealed	820-940	190	.0017	.0022	.0028	.0033	.0044	.0055	.0066	.0088	Full	.02xD
	3		<0.55% C	Quenched and tempered	650-890	250	.0017	.0022	.0028	.0033	.0044	.0055	.0066	.0088	Full	.02xD
	4		≥0.55% C	Annealed	650-890	220	.0017	.0022	.0028	.0033	.0044	.0055	.0066	.0088	Full	.02xD
	5		≥0.55% C	Quenched & tempered	570-730	300	.0017	.0022	.0028	.0033	.0044	.0055	.0066	.0088	Full	.02xD
	6		Low alloy & cast steel (less than 5% of alloying elements)	Annealed	650-890	200	.0017	.0022	.0028	.0033	.0044	.0055	.0066	.0088	Full	.02xD
	7			Quenched & tempered	490-730	275	.0017	.0022	.0028	.0033	.0044	.0055	.0066	.0088	Full	.02xD
	8			Quenched & tempered	520-730	300	.0017	.0022	.0028	.0033	.0044	.0055	.0066	.0088	Full	.02xD
	9			Quenched & tempered	570-730	350	.0017	.0022	.0028	.0033	.0044	.0055	.0066	.0088	Full	.02xD
	10		High alloyed steel, cast steel and tool steel	Annealed	520-730	200	.0017	.0022	.0028	.0033	.0044	.0055	.0066	.0088	Full	.02xD
	11			Quenched & tempered	280-490	325	.0017	.0022	.0028	.0033	.0044	.0055	.0066	.0088	Full	.02xD
	12		Stainless steel and cast steel	Ferritic/martensitic	320-650	200	.0017	.0022	.0028	.0033	.0044	.0055	.0066	.0088	Full	.02xD
	13			Martensitic	240-610	240	.0017	.0022	.0028	.0033	.0044	.0055	.0066	.0088	Full	.02xD
M	14	Stainless steel and cast steel	Austenitic, duplex	240-490	180	.0017	.0022	.0028	.0033	.0044	.0055	.0066	.0088	Full	.02xD	
K	15	Grey cast iron (GG)	Ferritic / pearlitic	320-1020	180	.0017	.0022	.0028	.0033	.0044	.0055	.0066	.0088	Full	.02xD	
	16		Pearlitic/ martensitic	520-980	260	.0017	.0022	.0028	.0033	.0044	.0055	.0066	.0088	Full	.02xD	
	17	Nodular cast iron (GGG)	Ferritic	610-1100	160	.0017	.0022	.0028	.0033	.0044	.0055	.0066	.0088	Full	.02xD	
	18		Pearlitic	610-1100	250	.0017	.0022	.0028	.0033	.0044	.0055	.0066	.0088	Full	.02xD	
	19	Malleable cast iron	Ferritic	610-1100	130	.0017	.0022	.0028	.0033	.0044	.0055	.0066	.0088	Full	.02xD	
20	Pearlitic		570-980	230	.0017	.0022	.0028	.0033	.0044	.0055	.0066	.0088	Full	.02xD		
S	31	High temp. alloys	Fe based	Annealed	80-160	200	.0017	.0022	.0028	.0033	.0044	.0055	.0066	.0088	Full	.02xD
	32			Hardened	80-120	280	.0017	.0022	.0028	.0033	.0044	.0055	.0066	.0088	Full	.02xD
	33		Ni or Co based	Annealed	80-120	250	.0017	.0022	.0028	.0033	.0044	.0055	.0066	.0088	Full	.02xD
	34			Hardened	80-120	350	.0017	.0022	.0028	.0033	.0044	.0055	.0066	.0088	Full	.02xD
	35			Cast	80-120	320	.0017	.0022	.0028	.0033	.0044	.0055	.0066	.0088	Full	.02xD
	36			Pure	120-390	190	.0017	.0022	.0028	.0033	.0044	.0055	.0066	.0088	Full	.02xD
37	Titanium alloys	Alpha+Beta alloys, hardened	300-390	310	.0017	.0022	.0028	.0033	.0044	.0055	.0066	.0088	Full	.02xD		
H	38	Hardened steel	Hardened	120-240	55HRC	.0017	.0022	.0028	.0033	.0044	.0055	.0066	.0088	Full	.02xD	
	39		Hardened	120-160	60HRC	.0017	.0022	.0028	.0033	.0044	.0055	.0066	.0088	Full	.02xD	
	40	Chilled Cast Iron	Cast	290-370	400	.0017	.0022	.0028	.0033	.0044	.0055	.0066	.0088	Full	.02xD	
41	Cast iron	Hardened	120-240	55HRC	.0017	.0022	.0028	.0033	.0044	.0055	.0066	.0088	Full	.02xD		

**EBI-6-VF**

6 Flute, Ball Nose Endmills With and Without Relieved Necks



Designation	Dimensions								IC608
	DC	APMX	LU	RE	DCONMS	OAL	NOF <sup>(1)</sup>	Shank	
EBI-6 250-500C125VF2	.250	.5000	.5000	.1250	.250	2.000	6	C	●
EBI-6 250-500/2.13C125VF4	.250	.5000	2.1300	.1250	.250	4.000	6	C	●
EBI-6 250-750C125VF2.5	.250	.7500	.7500	.1250	.250	2.500	6	C	●
EBI-6 250-1C125VF3	.250	1.0000	1.0000	.1250	.250	3.000	6	C	●
EBI-6 312-500C156VF2	.312	.5000	.5000	.1560	.312	2.000	6	C	●
EBI-6 312-875C156VF2.5	.312	.8750	.8750	.1560	.312	2.500	6	C	●
EBI-6 312-1C156VF3	.312	1.0000	1.0000	.1560	.312	3.000	6	C	●
EBI-6 312-1.5C156VF4	.312	1.5000	1.5000	.1560	.312	4.000	6	C	●
EBI-6 375-500C188VF2	.375	.5000	.5000	.1880	.375	2.000	6	C	●
EBI-6 375-750/2.13C188VF4	.375	.7500	2.1300	.1880	.375	4.000	6	C	●
EBI-6 375-1C188VF2.5	.375	1.0000	1.0000	.1880	.375	2.500	6	C	●
EBI-6 375-1C188VF3	.375	1.0000	1.0000	.1880	.375	3.000	6	C	●
EBI-6 375-1.5C188VF4	.375	1.5000	1.5000	.1880	.375	4.000	6	C	●
EBI-6 500-625C250VF2.5	.500	.6250	.6250	.2500	.500	2.500	6	C	●
EBI-6 500-875/1.38C250VF3	.500	.8750	1.3800	.2500	.500	3.000	6	C	●
EBI-6 500-875/2.13C250VF4	.500	.8750	2.1300	.2500	.500	4.000	6	C	●
EBI-6 500-875/3.13C250VF5	.500	.8750	3.1300	.2500	.500	5.000	6	C	●
EBI-6 500-875/4.13C250VF6	.500	.8750	4.1300	.2500	.500	6.000	6	C	●
EBI-6 500-1.25C250VF3	.500	1.2500	1.2500	.2500	.500	3.000	6	C	●
EBI-6 500-1.62C250VF4	.500	1.6250	1.6250	.2500	.500	4.000	6	C	●
EBI-6 500-2C250VF4	.500	2.0000	2.0000	.2500	.500	4.000	6	C	●
EBI-6 500-2.5C250VF5	.500	2.5000	2.5000	.2500	.500	5.000	6	C	●
EBI-6 500-3.12C250VF6	.500	3.1200	3.1250	.2500	.500	6.000	6	C	●
EBI-6 625-750C313VF3	.625	.7500	.7500	.3130	.625	3.000	6	C	●
EBI-6 625-1/2C313VF4	.625	1.0000	2.0000	.3130	.625	4.000	6	C	●
EBI-6 625-1/3C313VF5	.625	1.0000	3.0000	.3130	.625	5.000	6	C	●
EBI-6 625-1/4C313VF6	.625	1.0000	4.0000	.3130	.625	6.000	6	C	●
EBI-6 625-1.62C313VF3.5	.625	1.6250	1.6250	.3130	.625	3.500	6	C	●
EBI-6 625-2.5C313VF5	.625	2.5000	2.5000	.3130	.625	5.000	6	C	●
EBI-6 625-3C313VF6	.625	3.0000	3.0000	.3130	.625	6.000	6	C	●
EBI-6 750-1C375VF3	.750	1.0000	1.0000	.3750	.750	3.000	6	C	●
EBI-6 750-1.25C375VF4	.750	1.2500	2.0000	.3750	.750	4.000	6	C	●
EBI-6 750-1.25C375VF5	.750	1.2500	3.0000	.3750	.750	5.000	6	C	●
EBI-6 750-1.25C375VF6	.750	1.2500	4.0000	.3750	.750	6.000	6	C	●
EBI-6 750-1.62C375VF4	.750	1.6250	1.6250	.3750	.750	4.000	6	C	●
EBI-6 750-2.25C375VF5	.750	2.2500	2.2500	.3750	.750	5.000	6	C	●
EBI-6 750-3.25C375VF6	.750	3.2500	3.2500	.3750	.750	6.000	6	C	●
EBI-6 750-4.12C375VF7	.750	4.1250	4.1250	.3750	.750	7.000	6	C	●
EBI-6 1-1.5C500VF4	1.000	1.5000	1.5000	.5000	1.000	4.000	6	C	●
EBI-6 1-1.5C500VF5	1.000	1.5000	3.0000	.5000	1.000	5.000	6	C	●
EBI-6 1-1.5C500VF6	1.000	1.5000	4.0000	.5000	1.000	6.000	6	C	●
EBI-6 1-1.5C500VF7	1.000	1.5000	5.0000	.5000	1.000	7.000	6	C	●
EBI-6 1-2C500VF4.5	1.000	2.0000	2.0000	.5000	1.000	4.500	6	C	●
EBI-6 1-2.25C500VF5	1.000	2.2500	2.2500	.5000	1.000	5.000	6	C	●
EBI-6 1-3.25C500VF6	1.000	3.2500	3.2500	.5000	1.000	6.000	6	C	●
EBI-6 1-4.12C500VF7	1.000	4.1250	4.1250	.5000	1.000	7.000	6	C	●

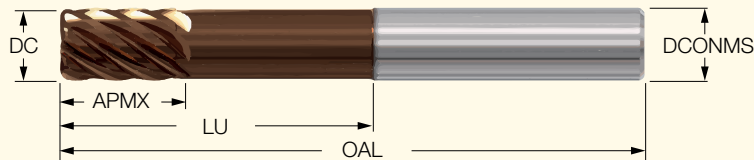
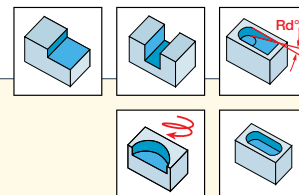
<sup>(1)</sup> Number of flutes

## Semi-Finish and Finishing

ISO	Material Group No.	Material	Condition	Cutting Speed Recommendations Vc (SFM)	Hardness HB	Feed (IPT) per Cutting Diameter (inch)										Radial Profiling	
						3/16	1/4	5/16	3/8	1/2	5/8	3/4	1	ap	ae		
P	1	<0.25% C	Annealed	1020-1100	125	0.001	0.002	0.002	0.003	0.003	0.004	0.004	0.005	2XD	.05xD		
	2		Annealed	820-940	190	0.001	0.002	0.002	0.003	0.003	0.004	0.004	0.005	2XD	.05xD		
	3	Non-alloy steel and cast steel, free cutting steel	<0.55% C	Quenched and tempered	650-890	250	0.001	0.002	0.002	0.003	0.003	0.004	0.004	0.005	2XD	.05xD	
	4		≥0.55% C	Annealed	650-890	220	0.001	0.002	0.002	0.003	0.003	0.004	0.004	0.005	2XD	.05xD	
	5		Quenched & tempered	570-730	300	0.001	0.002	0.002	0.003	0.003	0.004	0.004	0.005	2XD	.05xD		
	6	Low alloy & cast steel (less than 5% of alloying elements)		Annealed	650-890	200	0.001	0.002	0.002	0.003	0.003	0.004	0.004	0.005	2XD	.05xD	
	7			Quenched & tempered	490-730	275	0.001	0.002	0.002	0.002	0.003	0.003	0.004	0.004	2XD	.05xD	
	8			Quenched & tempered	520-730	300	0.001	0.002	0.002	0.002	0.003	0.003	0.004	0.004	2XD	.05xD	
	9			Quenched & tempered	570-730	350	0.001	0.002	0.002	0.002	0.003	0.003	0.004	0.004	2XD	.05xD	
	10	High alloyed steel, cast steel and tool steel		Annealed	520-730	200	0.001	0.001	0.002	0.002	0.003	0.003	0.003	0.003	2XD	.05xD	
	11			Quenched & tempered	280-490	325	0.001	0.001	0.002	0.002	0.003	0.003	0.003	0.003	2XD	.05xD	
	12	Stainless steel and cast steel		Ferritic/martensitic	320-650	200	0.001	0.001	0.002	0.002	0.002	0.003	0.003	0.004	2XD	.05xD	
	13			Martensitic	240-610	240	0.001	0.001	0.001	0.001	0.002	0.002	0.003	0.003	2XD	.05xD	
M	14	Stainless steel and cast steel	Austenitic, duplex	240-490	180	0.001	0.002	0.002	0.002	0.003	0.003	0.003	0.004	2XD	.05xD		
K	15	Grey cast iron (GG)		Ferritic / pearlitic	320-1020	180	0.001	0.002	0.003	0.003	0.003	0.004	0.004	0.005	2XD	.05xD	
	16			Pearlitic/martensitic	520-980	260	0.001	0.002	0.003	0.003	0.003	0.004	0.004	0.005	2XD	.05xD	
	17	Nodular cast iron (GGG)		Ferritic	610-1100	160	0.001	0.002	0.002	0.002	0.003	0.003	0.004	0.005	2XD	.05xD	
	18			Pearlitic	610-1100	250	0.001	0.002	0.002	0.002	0.003	0.003	0.004	0.005	2XD	.05xD	
	19	Malleable cast iron		Ferritic	610-1100	130	0.001	0.002	0.002	0.002	0.003	0.003	0.004	0.005	2XD	.05xD	
20			Pearlitic	570-980	230	0.001	0.002	0.002	0.002	0.003	0.003	0.004	0.005	2XD	.05xD		
S	31	High temp. alloys	Fe based	Annealed	80-160	200	0.001	0.002	0.002	0.003	0.003	0.003	0.004	0.005	2XD	.05xD	
	32			Hardened	80-120	280	0.001	0.002	0.002	0.003	0.003	0.003	0.004	0.005	2XD	.05xD	
	33	Ni or Co based		Annealed	80-120	250	0.001	0.001	0.001	0.002	0.002	0.002	0.002	0.002	2XD	.05xD	
	34			Hardened	80-120	350	0.001	0.001	0.001	0.002	0.002	0.002	0.002	0.002	0.002	2XD	.05xD
	35			Cast	80-120	320	0.001	0.001	0.001	0.002	0.002	0.002	0.002	0.002	0.002	2XD	.05xD
	36			Pure	120-320	190	0.001	0.001	0.001	0.002	0.002	0.003	0.003	0.003	0.003	2XD	.05xD
37	Titanium alloys		Alpha+Beta alloys, hardened	90-320	310	0.001	0.001	0.001	0.002	0.002	0.003	0.003	0.003	2XD	.05xD		
H	38	Hardened steel		Hardened	120-240	55 HRC	0.001	0.001	0.002	0.002	0.002	0.003	0.003	0.004	2XD	.05xD	
	39			Hardened	120-160	60 HRC	0.001	0.001	0.002	0.002	0.002	0.003	0.003	0.004	2XD	.05xD	
	40	Chilled cast iron		Cast	290-370	400	0.001	0.001	0.002	0.002	0.002	0.003	0.003	0.004	2XD	.05xD	
	41	Cast iron		Hardened	120-240	55 HRC	0.001	0.001	0.002	0.002	0.002	0.003	0.003	0.004	2XD	.05xD	

**ECI-7-VF**

7 Flute Endmill With and Without Relieved Neck, Assorted Radii and Variable Pitch for Chatter Dampening



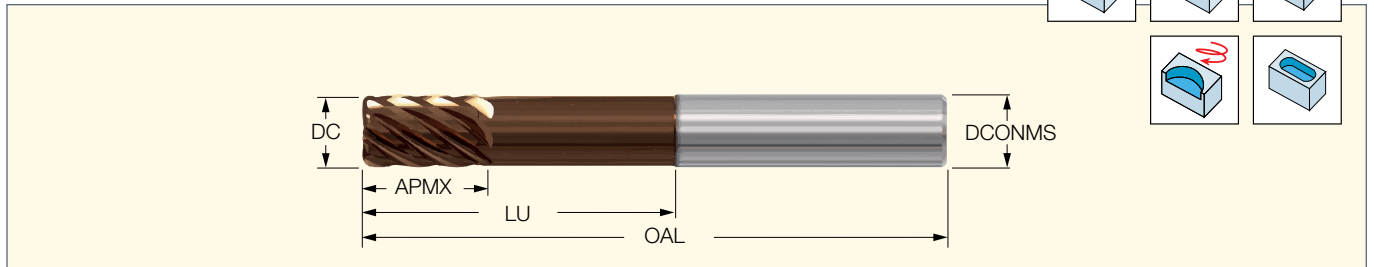
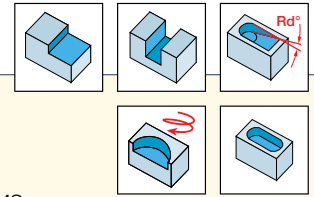
Designation	Dimensions								IC608
	DC	APMX	LU	RE	DCONMS	OAL	NOF <sup>(1)</sup>	Shank	
ECI-7 250-500/1.25C0VF3	.250	.5000	1.2500	0	.250	3.000	7	C	●
ECI-7 250-500/1.25C015VF3	.250	.5000	1.2500	.0150	.250	3.000	7	C	●
ECI-7 250-500/1.25C030VF3	.250	.5000	1.2500	.0300	.250	3.000	7	C	●
ECI-7 250-500/1.25C060VF3	.250	.5000	1.2500	.0600	.250	3.000	7	C	●
ECI-7 250-500/2.13C0VF4	.250	.5000	2.1250	0	.250	4.000	7	C	●
ECI-7 250-500/2.13C015VF4	.250	.5000	2.1250	.0150	.250	4.000	7	C	●
ECI-7 250-500/2.13C030VF4	.250	.5000	2.1250	.0300	.250	4.000	7	C	●
ECI-7 250-500/2.13C060VF4	.250	.5000	2.1250	.0600	.250	4.000	7	C	●
ECI-7 250-500C0VF2	.250	.5000	.5000	0	.250	2.000	7	C	●
ECI-7 250-500C010VF2	.250	.5000	.5000	.0100	.250	2.000	7	C	●
ECI-7 250-500C015VF2	.250	.5000	.5000	.0150	.250	2.000	7	C	●
ECI-7 250-500C030VF2	.250	.5000	.5000	.0300	.250	2.000	7	C	●
ECI-7 250-500C060VF2	.250	.5000	.5000	.0600	.250	2.000	7	C	●
ECI-7 250-750C0VF2.5	.250	.7500	.7500	0	.250	2.500	7	C	●
ECI-7 250-750C015VF2.5	.250	.7500	.7500	.0150	.250	2.500	7	C	●
ECI-7 250-750C030VF2.5	.250	.7500	.7500	.0300	.250	2.500	7	C	●
ECI-7 250-750C060VF2.5	.250	.7500	.7500	.0600	.250	2.500	7	C	●
ECI-7 250-1.0C0VF3	.250	1.0000	1.0000	0	.250	3.000	7	C	●
ECI-7 250-1.0C010VF3	.250	1.0000	1.0000	.0100	.250	3.000	7	C	●
ECI-7 250-1.0C015VF3	.250	1.0000	1.0000	.0150	.250	3.000	7	C	●
ECI-7 250-1.0C030VF3	.250	1.0000	1.0000	.0300	.250	3.000	7	C	●
ECI-7 250-1.0C060VF3	.250	1.0000	1.0000	.0600	.250	3.000	7	C	●
ECI-7 250-1.25C0VF4	.250	1.2500	1.2500	0	.250	4.000	7	C	●
ECI-7 250-1.25C015VF4	.250	1.2500	1.2500	.0150	.250	4.000	7	C	●
ECI-7 250-1.25C030VF4	.250	1.2500	1.2500	.0300	.250	4.000	7	C	●
ECI-7 250-1.25C060VF4	.250	1.2500	1.2500	.0600	.250	4.000	7	C	●
ECI-7 312-500C0VF2	.312	.5000	.5000	0	.312	2.000	7	C	●
ECI-7 312-500C015VF2	.312	.5000	.5000	.0150	.312	2.000	7	C	●
ECI-7 312-500C030VF2	.312	.5000	.5000	.0300	.312	2.000	7	C	●
ECI-7 312-500C060VF2	.312	.5000	.5000	.0600	.312	2.000	7	C	●
ECI-7 312-875C0VF2.5	.312	.8750	.8750	0	.312	2.500	7	C	●
ECI-7 312-875C015VF2.5	.312	.8750	.8750	.0150	.312	2.500	7	C	●
ECI-7 312-875C030VF2.5	.312	.8750	.8750	.0300	.312	2.500	7	C	●
ECI-7 312-875C060VF2.5	.312	.8750	.8750	.0600	.312	2.500	7	C	●
ECI-7 312-1.0C0VF3	.312	1.0000	1.0000	0	.312	3.000	7	C	●
ECI-7 312-1.0C015VF3	.312	1.0000	1.0000	.0150	.312	3.000	7	C	●
ECI-7 312-1.0C030VF3	.312	1.0000	1.0000	.0300	.312	3.000	7	C	●
ECI-7 312-1.0C060VF3	.312	1.0000	1.0000	.0600	.312	3.000	7	C	●
ECI-7 312-1.25C0VF4	.312	1.2500	1.2500	0	.312	4.000	7	C	●
ECI-7 312-1.25C010VF4	.312	1.2500	1.2500	.0100	.312	4.000	7	C	●
ECI-7 312-1.25C015VF4	.312	1.2500	1.2500	.0150	.312	4.000	7	C	●
ECI-7 312-1.25C030VF4	.312	1.2500	1.2500	.0300	.312	4.000	7	C	●
ECI-7 312-1.25C060VF4	.312	1.2500	1.2500	.0600	.312	4.000	7	C	●
ECI-7 375-500C0VF2	.375	.5000	.5000	0	.375	2.000	7	C	●
ECI-7 375-500C010VF2	.375	.5000	.5000	.0100	.375	2.000	7	C	●
ECI-7 375-500C015VF2	.375	.5000	.5000	.0150	.375	2.000	7	C	●
ECI-7 375-500C030VF2	.375	.5000	.5000	.0300	.375	2.000	7	C	●
ECI-7 375-500C060VF2	.375	.5000	.5000	.0600	.375	2.000	7	C	●
ECI-7 375-750/1.25C0VF3	.375	.7500	1.2500	0	.375	3.000	7	C	●
ECI-7 375-750/1.25C010VF3	.375	.7500	1.2500	.0100	.375	3.000	7	C	●
ECI-7 375-750/1.25C015VF3	.375	.7500	1.2500	.0150	.375	3.000	7	C	●
ECI-7 375-750/1.25C030VF3	.375	.7500	1.2500	.0300	.375	3.000	7	C	●

<sup>(1)</sup> Number of flutes



**ECI-7-VF Continued**

7 Flute Endmill With and Without Relieved Neck, Assorted Radii and Variable Pitch for Chatter Dampening

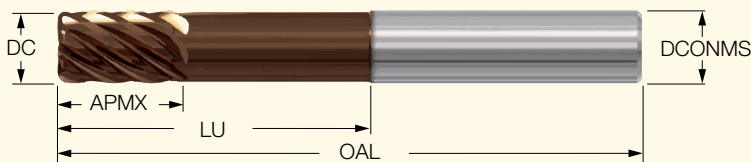
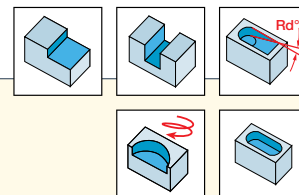


Designation	Dimensions								IC608
	DC	APMX	LU	RE	DCONMS	OAL	NOF <sup>(1)</sup>	Shank	
ECI-7 375-750/1.25C060VF3	.375	.7500	1.2500	.0600	.375	3.000	7	C	●
ECI-7 375-750/2.13C0VF4	.375	.7500	2.1250	0	.375	4.000	7	C	●
ECI-7 375-750/2.13C015VF4	.375	.7500	2.1250	.0150	.375	4.000	7	C	●
ECI-7 375-750/2.13C030VF4	.375	.7500	2.1250	.0300	.375	4.000	7	C	●
ECI-7 375-750/2.13C060VF4	.375	.7500	2.1250	.0600	.375	4.000	7	C	●
ECI-7 375-1.0C0VF2.5	.375	1.0000	1.0000	0	.375	2.500	7	C	●
ECI-7 375-1.0C0VF3	.375	1.0000	1.0000	0	.375	3.000	7	C	●
ECI-7 375-1.0C015VF2.5	.375	1.0000	1.0000	.0150	.375	2.500	7	C	●
ECI-7 375-1.0C015VF3	.375	1.0000	1.0000	.0150	.375	3.000	7	C	●
ECI-7 375-1.0C030VF2.5	.375	1.0000	1.0000	.0300	.375	2.500	7	C	●
ECI-7 375-1.0C030VF3	.375	1.0000	1.0000	.0300	.375	3.000	7	C	●
ECI-7 375-1.0C060VF2.5	.375	1.0000	1.0000	.0600	.375	2.500	7	C	●
ECI-7 375-1.0C060VF3	.375	1.0000	1.0000	.0600	.375	3.000	7	C	●
ECI-7 375-1.5C0VF4	.375	1.5000	1.5000	0	.375	4.000	7	C	●
ECI-7 375-1.5C015VF4	.375	1.5000	1.5000	.0150	.375	4.000	7	C	●
ECI-7 375-1.5C030VF4	.375	1.5000	1.5000	.0300	.375	4.000	7	C	●
ECI-7 375-1.5C060VF4	.375	1.5000	1.5000	.0600	.375	4.000	7	C	●
ECI-7 437-1.0C0VF2.75	.437	1.0000	1.0000	0	.437	2.750	7	C	●
ECI-7 437-1.0C015VF2.75	.437	1.0000	1.0000	.0150	.437	2.750	7	C	●
ECI-7 437-1.0C030VF2.75	.437	1.0000	1.0000	.0300	.437	2.750	7	C	●
ECI-7 437-1.0C060VF2.75	.437	1.0000	1.0000	.0600	.437	2.750	7	C	●
ECI-7 437-2.0C0VF4	.437	2.0000	2.0000	0	.437	4.000	7	C	●
ECI-7 437-2.0C015VF4	.437	2.0000	2.0000	.0150	.437	4.000	7	C	●
ECI-7 437-2.0C030VF4	.437	2.0000	2.0000	.0300	.437	4.000	7	C	●
ECI-7 437-2.0C060VF4	.437	2.0000	2.0000	.0600	.437	4.000	7	C	●
ECI-7 500-625C0VF2.5	.500	.6250	.6250	0	.500	2.500	7	C	●
ECI-7 500-625C010VF2.5	.500	.6250	.6250	.0100	.500	2.500	7	C	●
ECI-7 500-625C015VF2.5	.500	.6250	.6250	.0150	.500	2.500	7	C	●
ECI-7 500-625C030VF2.5	.500	.6250	.6250	.0300	.500	2.500	7	C	●
ECI-7 500-625C060VF2.5	.500	.6250	.6250	.0600	.500	2.500	7	C	●
ECI-7 500-625C090VF2.5	.500	.6250	.6250	.0900	.500	2.500	7	C	●
ECI-7 500-625C125VF2.5	.500	.6250	.6250	.1250	.500	2.500	7	C	●
ECI-7 500-875/1.38C0VF3	.500	.8750	1.3750	0	.500	3.000	7	C	●
ECI-7 500-875/1.38C015VF3	.500	.8750	1.3750	.0150	.500	3.000	7	C	●
ECI-7 500-875/1.38C030VF3	.500	.8750	1.3750	.0300	.500	3.000	7	C	●
ECI-7 500-875/1.38C060VF3	.500	.8750	1.3750	.0600	.500	3.000	7	C	●
ECI-7 500-875/1.38C090VF3	.500	.8750	1.3750	.0900	.500	3.000	7	C	●
ECI-7 500-875/1.38C125VF3	.500	.8750	1.3750	.1250	.500	3.000	7	C	●
ECI-7 500-875/2.13C0VF4	.500	.8750	2.1250	0	.500	4.000	7	C	●
ECI-7 500-875/2.13C015VF4	.500	.8750	2.1250	.0150	.500	4.000	7	C	●
ECI-7 500-875/2.13C030VF4	.500	.8750	2.1250	.0300	.500	4.000	7	C	●
ECI-7 500-875/2.13C060VF4	.500	.8750	2.1250	.0600	.500	4.000	7	C	●
ECI-7 500-875/2.13C090VF4	.500	.8750	2.1250	.0900	.500	4.000	7	C	●
ECI-7 500-875/2.13C125VF4	.500	.8750	2.1250	.1250	.500	4.000	7	C	●
ECI-7 500-875/3.13C0VF5	.500	.8750	3.1250	0	.500	5.000	7	C	●
ECI-7 500-875/3.13C015VF5	.500	.8750	3.1250	.0150	.500	5.000	7	C	●
ECI-7 500-875/3.13C030VF5	.500	.8750	3.1250	.0300	.500	5.000	7	C	●
ECI-7 500-875/3.13C060VF5	.500	.8750	3.1250	.0600	.500	5.000	7	C	●
ECI-7 500-875/3.13C090VF5	.500	.8750	3.1250	.0900	.500	5.000	7	C	●
ECI-7 500-875/3.13C125VF5	.500	.8750	3.1250	.1250	.500	5.000	7	C	●

<sup>(1)</sup> Number of flutes

**ECI-7-VF Continued**

7 Flute Endmill With and Without Relieved Neck, Assorted Radii and Variable Pitch for Chatter Dampening

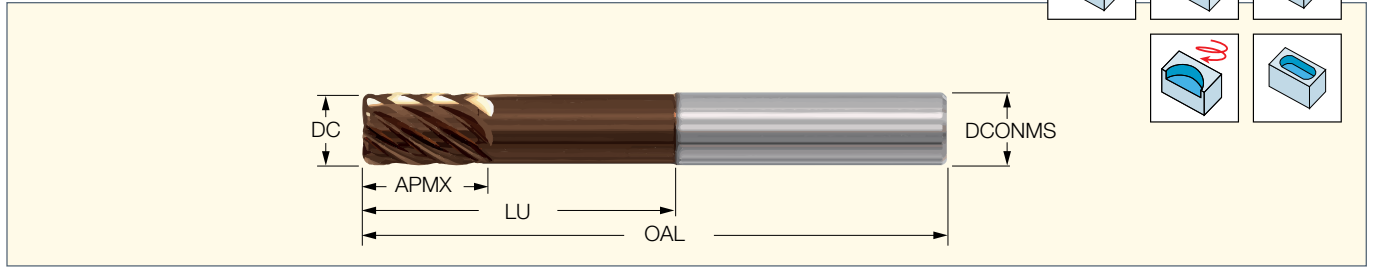
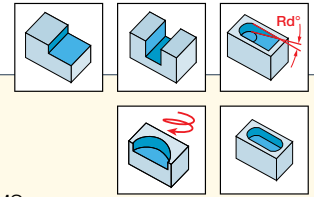


Designation	Dimensions								IC608
	DC	APMX	LU	RE	DCONMS	OAL	NOF <sup>(1)</sup>	Shank	
ECI-7 500-875/4.13C0VF6	.500	.8750	4.1250	0	.500	6.000	7	C	●
ECI-7 500-875/4.13C015VF6	.500	.8750	4.1250	.0150	.500	6.000	7	C	●
ECI-7 500-875/4.13C030VF6	.500	.8750	4.1250	.0300	.500	6.000	7	C	●
ECI-7 500-875/4.13C060VF6	.500	.8750	4.1250	.0600	.500	6.000	7	C	●
ECI-7 500-875/4.13C090VF6	.500	.8750	4.1250	.0900	.500	6.000	7	C	●
ECI-7 500-875/4.13C125VF6	.500	.8750	4.1250	.1250	.500	6.000	7	C	●
ECI-7 500-1.25C0VF3	.500	1.2500	1.2500	0	.500	3.000	7	C	●
ECI-7 500-1.25C010VF3	.500	1.2500	1.2500	.0100	.500	3.000	7	C	●
ECI-7 500-1.25C015VF3	.500	1.2500	1.2500	.0150	.500	3.000	7	C	●
ECI-7 500-1.25C030VF3	.500	1.2500	1.2500	.0300	.500	3.000	7	C	●
ECI-7 500-1.25C060VF3	.500	1.2500	1.2500	.0600	.500	3.000	7	C	●
ECI-7 500-1.25C090VF3	.500	1.2500	1.2500	.0900	.500	3.000	7	C	●
ECI-7 500-1.25C125VF3	.500	1.2500	1.2500	.1250	.500	3.000	7	C	●
ECI-7 500-2.0C0VF4	.500	2.0000	2.0000	0	.500	4.000	7	C	●
ECI-7 500-2.0C010VF4	.500	2.0000	2.0000	.0100	.500	4.000	7	C	●
ECI-7 500-2.0C015VF4	.500	2.0000	2.0000	.0150	.500	4.000	7	C	●
ECI-7 500-2.0C030VF4	.500	2.0000	2.0000	.0300	.500	4.000	7	C	●
ECI-7 500-2.0C060VF4	.500	2.0000	2.0000	.0600	.500	4.000	7	C	●
ECI-7 500-2.0C090VF4	.500	2.0000	2.0000	.0900	.500	4.000	7	C	●
ECI-7 500-2.0C125VF4	.500	2.0000	2.0000	.1250	.500	4.000	7	C	●
ECI-7 500-2.5C0VF5	.500	2.5000	2.5000	0	.500	5.000	7	C	●
ECI-7 500-2.5C015VF5	.500	2.5000	2.5000	.0150	.500	5.000	7	C	●
ECI-7 500-2.5C030VF5	.500	2.5000	2.5000	.0300	.500	5.000	7	C	●
ECI-7 500-2.5C060VF5	.500	2.5000	2.5000	.0600	.500	5.000	7	C	●
ECI-7 500-2.5C090VF5	.500	2.5000	2.5000	.0900	.500	5.000	7	C	●
ECI-7 500-2.5C125VF5	.500	2.5000	2.5000	.1250	.500	5.000	7	C	●
ECI-7 500-3.13C0VF6	.500	3.1250	3.1250	0	.500	6.000	7	C	●
ECI-7 500-3.13C015VF6	.500	3.1250	3.1250	.0150	.500	6.000	7	C	●
ECI-7 500-3.13C030VF6	.500	3.1250	3.1250	.0300	.500	6.000	7	C	●
ECI-7 500-3.13C060VF6	.500	3.1250	3.1250	.0600	.500	6.000	7	C	●
ECI-7 500-3.13C090VF6	.500	3.1250	3.1250	.0900	.500	6.000	7	C	●
ECI-7 500-3.13C125VF6	.500	3.1250	3.1250	.1250	.500	6.000	7	C	●
ECI-7 625-750C0VF3	.625	.7500	.7500	0	.625	3.000	7	C	●
ECI-7 625-750C015VF3	.625	.7500	.7500	.0150	.625	3.000	7	C	●
ECI-7 625-750C030VF3	.625	.7500	.7500	.0300	.625	3.000	7	C	●
ECI-7 625-750C060VF3	.625	.7500	.7500	.0600	.625	3.000	7	C	●
ECI-7 625-750C090VF3	.625	.7500	.7500	.0900	.625	3.000	7	C	●
ECI-7 625-750C125VF3	.625	.7500	.7500	.1250	.625	3.000	7	C	●
ECI-7 625-1.0/2.0C0VF4	.625	1.0000	2.0000	0	.625	4.000	7	C	●
ECI-7 625-1.0/2.0C015VF4	.625	1.0000	2.0000	.0150	.625	4.000	7	C	●
ECI-7 625-1.0/2.0C030VF4	.625	1.0000	2.0000	.0300	.625	4.000	7	C	●
ECI-7 625-1.0/2.0C060VF4	.625	1.0000	2.0000	.0600	.625	4.000	7	C	●
ECI-7 625-1.0/2.0C090VF4	.625	1.0000	2.0000	.0900	.625	4.000	7	C	●
ECI-7 625-1.0/2.0C125VF4	.625	1.0000	2.0000	.1250	.625	4.000	7	C	●
ECI-7 625-1.0/3.0C0VF5	.625	1.0000	3.0000	0	.625	5.000	7	C	●
ECI-7 625-1.0/3.0C015VF5	.625	1.0000	3.0000	.0150	.625	5.000	7	C	●
ECI-7 625-1.0/3.0C030VF5	.625	1.0000	3.0000	.0300	.625	5.000	7	C	●
ECI-7 625-1.0/3.0C060VF5	.625	1.0000	3.0000	.0600	.625	5.000	7	C	●
ECI-7 625-1.0/3.0C090VF5	.625	1.0000	3.0000	.0900	.625	5.000	7	C	●
ECI-7 625-1.0/3.0C125VF5	.625	1.0000	3.0000	.1250	.625	5.000	7	C	●

<sup>(1)</sup> Number of flutes

**ECI-7-VF Continued**

7 Flute Endmill With and Without Relieved Neck, Assorted Radii and Variable Pitch for Chatter Dampening

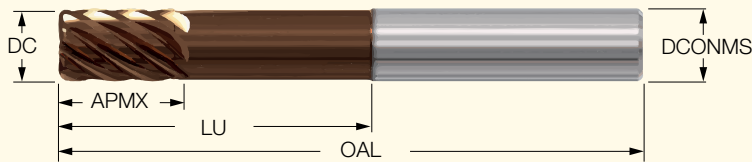
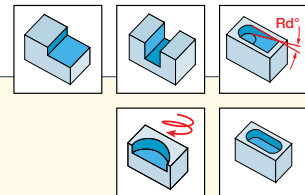


Designation	Dimensions								IC608
	DC	APMX	LU	RE	DCONMS	OAL	NOF <sup>(1)</sup>	Shank	
ECI-7 625-1.0/4.0C0VF6	.625	1.0000	4.0000	0	.625	6.000	7	C	●
ECI-7 625-1.0/4.0C010VF6	.625	1.0000	4.0000	.0100	.625	6.000	7	C	●
ECI-7 625-1.0/4.0C015VF6	.625	1.0000	4.0000	.0150	.625	6.000	7	C	●
ECI-7 625-1.0/4.0C030VF6	.625	1.0000	4.0000	.0300	.625	6.000	7	C	●
ECI-7 625-1.0/4.0C060VF6	.625	1.0000	4.0000	.0600	.625	6.000	7	C	●
ECI-7 625-1.0/4.0C090VF6	.625	1.0000	4.0000	.0900	.625	6.000	7	C	●
ECI-7 625-1.0/4.0C125VF6	.625	1.0000	4.0000	.1250	.625	6.000	7	C	●
ECI-7 625-1.63C0VF3.5	.625	1.6250	1.6250	0	.625	3.500	7	C	●
ECI-7 625-1.63C010VF3.5	.625	1.6250	1.6250	.0100	.625	3.500	7	C	●
ECI-7 625-1.63C015VF3.5	.625	1.6250	1.6250	.0150	.625	3.500	7	C	●
ECI-7 625-1.63C030VF3.5	.625	1.6250	1.6250	.0300	.625	3.500	7	C	●
ECI-7 625-1.63C060VF3.5	.625	1.6250	1.6250	.0600	.625	3.500	7	C	●
ECI-7 625-1.63C090VF3.5	.625	1.6250	1.6250	.0900	.625	3.500	7	C	●
ECI-7 625-1.63C125VF3.5	.625	1.6250	1.6250	.1250	.625	3.500	7	C	●
ECI-7 625-2.5C0VF5	.625	2.5000	2.5000	0	.625	5.000	7	C	●
ECI-7 625-2.5C010VF5	.625	2.5000	2.5000	.0100	.625	5.000	7	C	●
ECI-7 625-2.5C015VF5	.625	2.5000	2.5000	.0150	.625	5.000	7	C	●
ECI-7 625-2.5C030VF5	.625	2.5000	2.5000	.0300	.625	5.000	7	C	●
ECI-7 625-2.5C060VF5	.625	2.5000	2.5000	.0600	.625	5.000	7	C	●
ECI-7 625-2.5C090VF5	.625	2.5000	2.5000	.0900	.625	5.000	7	C	●
ECI-7 625-2.5C125VF5	.625	2.5000	2.5000	.1250	.625	5.000	7	C	●
ECI-7 625-3.0C0VF6	.625	3.0000	3.0000	0	.625	6.000	7	C	●
ECI-7 625-3.0C015VF6	.625	3.0000	3.0000	.0150	.625	6.000	7	C	●
ECI-7 625-3.0C030VF6	.625	3.0000	3.0000	.0300	.625	6.000	7	C	●
ECI-7 625-3.0C060VF6	.625	3.0000	3.0000	.0600	.625	6.000	7	C	●
ECI-7 625-3.0C090VF6	.625	3.0000	3.0000	.0900	.625	6.000	7	C	●
ECI-7 625-3.0C125VF6	.625	3.0000	3.0000	.1250	.625	6.000	7	C	●
ECI-7 750-1.0C0VF3	.750	1.0000	1.0000	0	.750	3.000	7	C	●
ECI-7 750-1.0C015VF3	.750	1.0000	1.0000	.0150	.750	3.000	7	C	●
ECI-7 750-1.0C030VF3	.750	1.0000	1.0000	.0300	.750	3.000	7	C	●
ECI-7 750-1.0C060VF3	.750	1.0000	1.0000	.0600	.750	3.000	7	C	●
ECI-7 750-1.0C090VF3	.750	1.0000	1.0000	.0900	.750	3.000	7	C	●
ECI-7 750-1.0C125VF3	.750	1.0000	1.0000	.1250	.750	3.000	7	C	●
ECI-7 750-1.25/2.0C0VF4	.750	1.2500	2.0000	0	.750	4.000	7	C	●
ECI-7 750-1.25/2.0C015VF4	.750	1.2500	2.0000	.0150	.750	4.000	7	C	●
ECI-7 750-1.25/2.0C030VF4	.750	1.2500	2.0000	.0300	.750	4.000	7	C	●
ECI-7 750-1.25/2.0C060VF4	.750	1.2500	2.0000	.0600	.750	4.000	7	C	●
ECI-7 750-1.25/2.0C090VF4	.750	1.2500	2.0000	.0900	.750	4.000	7	C	●
ECI-7 750-1.25/2.0C125VF4	.750	1.2500	2.0000	.1250	.750	4.000	7	C	●
ECI-7 750-1.25/3.0C0VF5	.750	1.2500	3.0000	0	.750	5.000	7	C	●
ECI-7 750-1.25/3.0C015VF5	.750	1.2500	3.0000	.0150	.750	5.000	7	C	●
ECI-7 750-1.25/3.0C030VF5	.750	1.2500	3.0000	.0300	.750	5.000	7	C	●
ECI-7 750-1.25/3.0C060VF5	.750	1.2500	3.0000	.0600	.750	5.000	7	C	●
ECI-7 750-1.25/3.0C090VF5	.750	1.2500	3.0000	.0900	.750	5.000	7	C	●
ECI-7 750-1.25/3.0C125VF5	.750	1.2500	3.0000	.1250	.750	5.000	7	C	●
ECI-7 750-1.25/4.0C0VF6	.750	1.2500	4.0000	0	.750	6.000	7	C	●
ECI-7 750-1.25/4.0C015VF6	.750	1.2500	4.0000	.0150	.750	6.000	7	C	●
ECI-7 750-1.25/4.0C030VF6	.750	1.2500	4.0000	.0300	.750	6.000	7	C	●
ECI-7 750-1.25/4.0C060VF6	.750	1.2500	4.0000	.0600	.750	6.000	7	C	●
ECI-7 750-1.25/4.0C090VF6	.750	1.2500	4.0000	.0900	.750	6.000	7	C	●

<sup>(1)</sup> Number of flutes

**ECI-7-VF Continued**

7 Flute Endmill With and Without Relieved Neck, Assorted Radii and Variable Pitch for Chatter Dampening

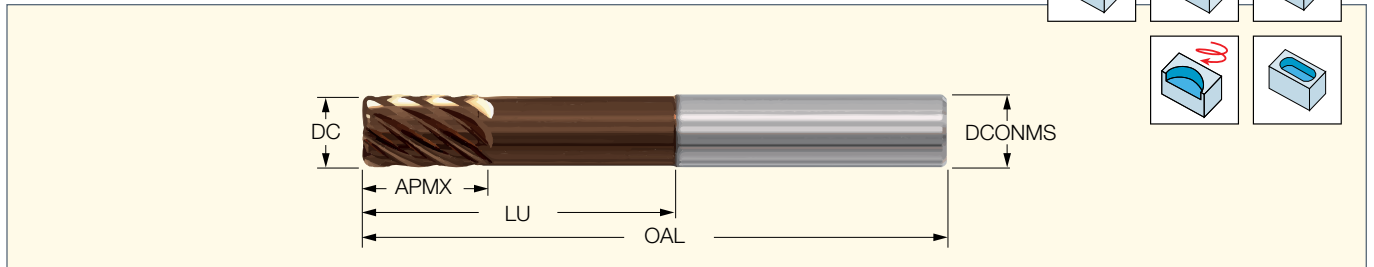
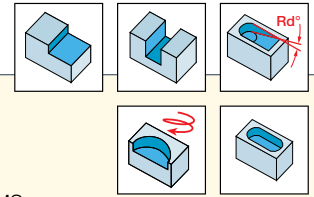


Designation	Dimensions								IC608
	DC	APMX	LU	RE	DCONMS	OAL	NOF <sup>(1)</sup>	Shank	
ECI-7 750-1.25/4.0C125VF6	.750	1.2500	4.0000	.1250	.750	6.000	7	C	●
ECI-7 750-1.63C0VF4	.750	1.6250	1.6250	0	.750	4.000	7	C	●
ECI-7 750-1.63C010VF4	.750	1.6250	1.6250	.0100	.750	4.000	7	C	●
ECI-7 750-1.63C015VF4	.750	1.6250	1.6250	.0150	.750	4.000	7	C	●
ECI-7 750-1.63C030VF4	.750	1.6250	1.6250	.0300	.750	4.000	7	C	●
ECI-7 750-1.63C060VF4	.750	1.6250	1.6250	.0600	.750	4.000	7	C	●
ECI-7 750-1.63C090VF4	.750	1.6250	1.6250	.0900	.750	4.000	7	C	●
ECI-7 750-1.63C125VF4	.750	1.6250	1.6250	.1250	.750	4.000	7	C	●
ECI-7 750-2.25C0VF5	.750	2.2500	2.2500	0	.750	5.000	7	C	●
ECI-7 750-2.25C015VF5	.750	2.2500	2.2500	.0150	.750	5.000	7	C	●
ECI-7 750-2.25C030VF5	.750	2.2500	2.2500	.0300	.750	5.000	7	C	●
ECI-7 750-2.25C060VF5	.750	2.2500	2.2500	.0600	.750	5.000	7	C	●
ECI-7 750-2.25C090VF5	.750	2.2500	2.2500	.0900	.750	5.000	7	C	●
ECI-7 750-2.25C125VF5	.750	2.2500	2.2500	.1250	.750	5.000	7	C	●
ECI-7 750-3.25C0VF6	.750	3.2500	3.2500	0	.750	6.000	7	C	●
ECI-7 750-3.25C015VF6	.750	3.2500	3.2500	.0150	.750	6.000	7	C	●
ECI-7 750-3.25C030VF6	.750	3.2500	3.2500	.0300	.750	6.000	7	C	●
ECI-7 750-3.25C060VF6	.750	3.2500	3.2500	.0600	.750	6.000	7	C	●
ECI-7 750-3.25C090VF6	.750	3.2500	3.2500	.0900	.750	6.000	7	C	●
ECI-7 750-3.25C125VF6	.750	3.2500	3.2500	.1250	.750	6.000	7	C	●
ECI-7 750-4.0C0VF7	.750	4.0000	4.0000	0	.750	7.000	7	C	●
ECI-7 750-4.0C010VF7	.750	4.0000	4.0000	.0100	.750	7.000	7	C	●
ECI-7 750-4.0C015VF7	.750	4.0000	4.0000	.0150	.750	7.000	7	C	●
ECI-7 750-4.0C030VF7	.750	4.0000	4.0000	.0300	.750	7.000	7	C	●
ECI-7 750-4.0C060VF7	.750	4.0000	4.0000	.0600	.750	7.000	7	C	●
ECI-7 750-4.0C090VF7	.750	4.0000	4.0000	.0900	.750	7.000	7	C	●
ECI-7 750-4.0C125VF7	.750	4.0000	4.0000	.1250	.750	7.000	7	C	●
ECI-7 1.0-1.25C0VF4	1.000	1.2500	1.2500	0	1.000	4.000	7	C	●
ECI-7 1.0-1.25C015VF4	1.000	1.2500	1.2500	.0150	1.000	4.000	7	C	●
ECI-7 1.0-1.25C030VF4	1.000	1.2500	1.2500	.0300	1.000	4.000	7	C	●
ECI-7 1.0-1.25C060VF4	1.000	1.2500	1.2500	.0600	1.000	4.000	7	C	●
ECI-7 1.0-1.25C090VF4	1.000	1.2500	1.2500	.0900	1.000	4.000	7	C	●
ECI-7 1.0-1.25C125VF4	1.000	1.2500	1.2500	.1250	1.000	4.000	7	C	●
ECI-7 1.0-1.5/3.0C0VF5	1.000	1.5000	3.0000	0	1.000	5.000	7	C	●
ECI-7 1.0-1.5/3.0C015VF5	1.000	1.5000	3.0000	.0150	1.000	5.000	7	C	●
ECI-7 1.0-1.5/3.0C030VF5	1.000	1.5000	3.0000	.0300	1.000	5.000	7	C	●
ECI-7 1.0-1.5/3.0C060VF5	1.000	1.5000	3.0000	.0600	1.000	5.000	7	C	●
ECI-7 1.0-1.5/3.0C090VF5	1.000	1.5000	3.0000	.0900	1.000	5.000	7	C	●
ECI-7 1.0-1.5/3.0C125VF5	1.000	1.5000	3.0000	.1250	1.000	5.000	7	C	●
ECI-7 1.0-1.5/4.0C0VF6	1.000	1.5000	4.0000	0	1.000	6.000	7	C	●
ECI-7 1.0-1.5/4.0C015VF6	1.000	1.5000	4.0000	.0150	1.000	6.000	7	C	●
ECI-7 1.0-1.5/4.0C030VF6	1.000	1.5000	4.0000	.0300	1.000	6.000	7	C	●
ECI-7 1.0-1.5/4.0C060VF6	1.000	1.5000	4.0000	.0600	1.000	6.000	7	C	●
ECI-7 1.0-1.5/4.0C090VF6	1.000	1.5000	4.0000	.0900	1.000	6.000	7	C	●
ECI-7 1.0-1.5/4.0C125VF6	1.000	1.5000	4.0000	.1250	1.000	6.000	7	C	●
ECI-7 1.0-1.5/5.0C0VF7	1.000	1.5000	5.0000	0	1.000	7.000	7	C	●
ECI-7 1.0-1.5/5.0C015VF7	1.000	1.5000	5.0000	.0150	1.000	7.000	7	C	●
ECI-7 1.0-1.5/5.0C030VF7	1.000	1.5000	5.0000	.0300	1.000	7.000	7	C	●
ECI-7 1.0-1.5/5.0C060VF7	1.000	1.5000	5.0000	.0600	1.000	7.000	7	C	●
ECI-7 1.0-1.5/5.0C090VF7	1.000	1.5000	5.0000	.0900	1.000	7.000	7	C	●

<sup>(1)</sup> Number of flutes

**ECI-7-VF Continued**

7 Flute Endmill With and Without Relieved Neck, Assorted Radii and Variable Pitch for Chatter Dampening



Designation	Dimensions								IC608
	DC	APMX	LU	RE	DCONMS	OAL	NOF <sup>(1)</sup>	Shank	
ECI-7 1.0-1.5/5.0C125VF7	1.000	1.5000	5.0000	.1250	1.000	7.000	7	C	●
ECI-7 1.0-2.0C0VF4.5	1.000	2.0000	2.0000	0	1.000	4.500	7	C	●
ECI-7 1.0-2.0C015VF4.5	1.000	2.0000	2.0000	.0150	1.000	4.500	7	C	●
ECI-7 1.0-2.0C030VF4.5	1.000	2.0000	2.0000	.0300	1.000	4.500	7	C	●
ECI-7 1.0-2.0C060VF4.5	1.000	2.0000	2.0000	.0600	1.000	4.500	7	C	●
ECI-7 1.0-2.0C090VF4.5	1.000	2.0000	2.0000	.0900	1.000	4.500	7	C	●
ECI-7 1.0-2.0C125VF4.5	1.000	2.0000	2.0000	.1250	1.000	4.500	7	C	●
ECI-7 1.0-2.25C0VF5	1.000	2.2500	2.2500	0	1.000	5.000	7	C	●
ECI-7 1.0-2.25C015VF5	1.000	2.2500	2.2500	.0150	1.000	5.000	7	C	●
ECI-7 1.0-2.25C030VF5	1.000	2.2500	2.2500	.0300	1.000	5.000	7	C	●
ECI-7 1.0-2.25C060VF5	1.000	2.2500	2.2500	.0600	1.000	5.000	7	C	●
ECI-7 1.0-2.25C090VF5	1.000	2.2500	2.2500	.0900	1.000	5.000	7	C	●
ECI-7 1.0-2.25C125VF5	1.000	2.2500	2.2500	.1250	1.000	5.000	7	C	●
ECI-7 1.0-2.63C0VF6	1.000	2.6250	2.6250	0	1.000	6.000	7	C	●
ECI-7 1.0-2.63C015VF6	1.000	2.6250	2.6250	.0150	1.000	6.000	7	C	●
ECI-7 1.0-2.63C030VF6	1.000	2.6250	2.6250	.0300	1.000	6.000	7	C	●
ECI-7 1.0-2.63C060VF6	1.000	2.6250	2.6250	.0600	1.000	6.000	7	C	●
ECI-7 1.0-2.63C090VF6	1.000	2.6250	2.6250	.0900	1.000	6.000	7	C	●
ECI-7 1.0-2.63C125VF6	1.000	2.6250	2.6250	.1250	1.000	6.000	7	C	●
ECI-7 1.0-3.25C0VF6	1.000	3.2500	3.2500	0	1.000	6.000	7	C	●
ECI-7 1.0-3.25C015VF6	1.000	3.2500	3.2500	.0150	1.000	6.000	7	C	●
ECI-7 1.0-3.25C030VF6	1.000	3.2500	3.2500	.0300	1.000	6.000	7	C	●
ECI-7 1.0-3.25C060VF6	1.000	3.2500	3.2500	.0600	1.000	6.000	7	C	●
ECI-7 1.0-3.25C090VF6	1.000	3.2500	3.2500	.0900	1.000	6.000	7	C	●
ECI-7 1.0-3.25C125VF6	1.000	3.2500	3.2500	.1250	1.000	6.000	7	C	●
ECI-7 1.0-4.13C0VF7	1.000	4.1250	4.1250	0	1.000	7.000	7	C	●
ECI-7 1.0-4.13C015VF7	1.000	4.1250	4.1250	.0150	1.000	7.000	7	C	●
ECI-7 1.0-4.13C030VF7	1.000	4.1250	4.1250	.0300	1.000	7.000	7	C	●
ECI-7 1.0-4.13C060VF7	1.000	4.1250	4.1250	.0600	1.000	7.000	7	C	●
ECI-7 1.0-4.13C090VF7	1.000	4.1250	4.1250	.0900	1.000	7.000	7	C	●
ECI-7 1.0-4.13C125VF7	1.000	4.1250	4.1250	.1250	1.000	7.000	7	C	●
ECI-7 1.25-2.0C0VF4.5	1.250	2.0000	2.0000	0	1.250	4.500	7	C	●
ECI-7 1.25-2.0C015VF4.5	1.250	2.0000	2.0000	.0150	1.250	4.500	7	C	●
ECI-7 1.25-2.0C030VF4.5	1.250	2.0000	2.0000	.0300	1.250	4.500	7	C	●
ECI-7 1.25-2.0C060VF4.5	1.250	2.0000	2.0000	.0600	1.250	4.500	7	C	●
ECI-7 1.25-2.0C090VF4.5	1.250	2.0000	2.0000	.0900	1.250	4.500	7	C	●
ECI-7 1.25-2.0C125VF4.5	1.250	2.0000	2.0000	.1250	1.250	4.500	7	C	●
ECI-7 1.25-3.0C0VF6	1.250	3.0000	3.0000	0	1.250	6.000	7	C	●
ECI-7 1.25-3.0C015VF6	1.250	3.0000	3.0000	.0150	1.250	6.000	7	C	●
ECI-7 1.25-3.0C015VF8	1.250	3.0000	3.0000	.0150	1.250	8.000	7	C	●
ECI-7 1.25-3.0C030VF6	1.250	3.0000	3.0000	.0300	1.250	6.000	7	C	●
ECI-7 1.25-3.0C030VF8	1.250	3.0000	3.0000	.0300	1.250	8.000	7	C	●
ECI-7 1.25-3.0C060VF6	1.250	3.0000	3.0000	.0600	1.250	6.000	7	C	●
ECI-7 1.25-3.0C060VF8	1.250	3.0000	3.0000	.0600	1.250	8.000	7	C	●
ECI-7 1.25-3.0C090VF6	1.250	3.0000	3.0000	.0900	1.250	6.000	7	C	●
ECI-7 1.25-3.0C090VF8	1.250	3.0000	3.0000	.0900	1.250	8.000	7	C	●
ECI-7 1.25-3.0C125VF6	1.250	3.0000	3.0000	.1250	1.250	6.000	7	C	●
ECI-7 1.25-3.0C125VF8	1.250	3.0000	3.0000	.1250	1.250	8.000	7	C	●
ECI-7 1.25-5.0C0VF8	1.250	5.0000	5.0000	0	1.250	8.000	7	C	●

<sup>(1)</sup> Number of flutes

# Roughing

ISO	Material Group No.	Material	Condition	Cutting Speed Recommendations V <sub>c</sub> (SFM)	Hardness HB	Feed (IPT) per Cutting Diameter (inch)								Roughing		
						3/16	1/4	5/16	3/8	1/2	5/8	3/4	1	a <sub>p</sub>	a <sub>e</sub>	
P	1	Non-alloy steel and cast steel, free cutting steel	<0.25% C	Annealed	890-960	125	.0007-.0014	.001-.0019	.0013-.0023	.0014-.0028	.002-.0038	.0026-.0046	.0028-.0056	.004-.0076	3xD	.10xD
	2		≥0.25% C	Annealed	710-815	190	.0007-.0014	.001-.0019	.0013-.0023	.0014-.0028	.002-.0038	.0026-.0046	.0028-.0056	.004-.0076	3xD	.10xD
	3		<0.55% C	Quenched and tempered	570-780	250	.0007-.0014	.001-.0019	.0013-.0023	.0014-.0028	.002-.0038	.0026-.0046	.0028-.0056	.004-.0076	3xD	.10xD
	4		≥0.55% C	Annealed	570-780	220	.0007-.0014	.001-.0019	.0013-.0023	.0014-.0028	.002-.0038	.0026-.0046	.0028-.0056	.004-.0076	3xD	.10xD
	5			Quenched & tempered	500-635	300	.0007-.0014	.001-.0019	.0013-.0023	.0014-.0028	.002-.0038	.0026-.0046	.0028-.0056	.004-.0076	3xD	.10xD
	6	Low alloy & cast steel (less than 5% of alloying elements)	Annealed	570-780	200	.0007-.0014	.001-.0019	.0013-.0023	.0014-.0028	.002-.0038	.0026-.0046	.0028-.0056	.004-.0076	3xD	.10xD	
	7		Quenched & tempered	425-635	275	.0007-.0014	.001-.0019	.0013-.0023	.0014-.0028	.002-.0038	.0026-.0046	.0028-.0056	.004-.0076	3xD	.10xD	
	8		Quenched & tempered	425-635	300	.0007-.0014	.001-.0019	.0013-.0023	.0014-.0028	.002-.0038	.0026-.0046	.0028-.0056	.004-.0076	3xD	.10xD	
	9	High alloyed steel, cast steel and tool steel	Quenched & tempered	425-635	350	.0007-.0014	.001-.0019	.0013-.0023	.0014-.0028	.002-.0038	.0026-.0046	.0028-.0056	.004-.0076	3xD	.10xD	
	10		Annealed	450-635	200	.0007-.0014	.001-.0019	.0013-.0023	.0014-.0028	.002-.0038	.0026-.0046	.0028-.0056	.004-.0076	3xD	.10xD	
	11	Stainless steel and cast steel	Quenched & tempered	240-425	325	.0009-.0016	.0012-.0022	.0015-.0028	.0018-.0032	.0024-.0044	.003-.0056	.0036-.0064	.0048-.0088	3xD	.07xD	
	12		Ferritic/martensitic	280-570	200	.0009-.0016	.0012-.0022	.0015-.0028	.0018-.0032	.0024-.0044	.003-.0056	.0036-.0064	.0048-.0088	3xD	.07xD	
	13	Stainless steel and cast steel	Martensitic	210-530	240	.0009-.0016	.0012-.0022	.0015-.0028	.0018-.0032	.0024-.0044	.003-.0056	.0036-.0064	.0048-.0088	3xD	.07xD	
14	Stainless steel and cast steel		Austenitic, duplex	210-425	180	.0008-.0015	.0011-.0021	.0013-.0025	.0016-.003	.0022-.0042	.0025-.005	.0032-.006	.0044-.0084	3xD	.08xD	
K	15	Grey cast iron (GG)	Ferritic / pearlitic	280-890	180	.0007-.0014	.001-.0019	.0013-.0023	.0014-.0028	.002-.0038	.0026-.0046	.0028-.0056	.004-.0076	3xD	.10xD	
	16		Pearlitic/martensitic	450-850	260	.0007-.0014	.001-.0019	.0013-.0023	.0014-.0028	.002-.0038	.0026-.0046	.0028-.0056	.004-.0076	3xD	.10xD	
	17	Nodular cast iron (GGG)	Ferritic	530-960	160	.0007-.0014	.001-.0019	.0013-.0023	.0014-.0028	.002-.0038	.0026-.0046	.0028-.0056	.004-.0076	3xD	.10xD	
	18		Pearlitic	530-960	250	.0007-.0014	.001-.0019	.0013-.0023	.0014-.0028	.002-.0038	.0026-.0046	.0028-.0056	.004-.0076	3xD	.10xD	
	19	Malleable cast iron	Ferritic	530-960	130	.0007-.0014	.001-.0019	.0013-.0023	.0014-.0028	.002-.0038	.0026-.0046	.0028-.0056	.004-.0076	3xD	.10xD	
	20		Pearlitic	500-850	230	.0007-.0014	.001-.0019	.0013-.0023	.0014-.0028	.002-.0038	.0026-.0046	.0028-.0056	.004-.0076	3xD	.10xD	
S	31	Fe based	Annealed	125-200	200	.0009-.0016	.0012-.0022	.0015-.0028	.0018-.0032	.0024-.0044	.003-.0056	.0036-.0064	.0048-.0088	3xD	.07xD	
	32		Hardened	125-200	280	.0009-.0016	.0012-.0022	.0015-.0028	.0018-.0032	.0024-.0044	.003-.0056	.0036-.0064	.0048-.0088	3xD	.07xD	
	33	High temp. alloys	Ni or Co based	Annealed	70-125	250	.001-.0018	.0013-.0024	.0013-.0025	.002-.0036	.0026-.0048	.0025-.005	.004-.0072	.0052-.0096	3xD	.06xD
	34			Hardened	70-125	350	.001-.0018	.0013-.0024	.0013-.0025	.002-.0036	.0026-.0048	.0025-.005	.004-.0072	.0052-.0096	3xD	.06xD
	35		Cast	70-125	320	.001-.0018	.0013-.0024	.0013-.0025	.002-.0036	.0026-.0048	.0025-.005	.004-.0072	.0052-.0096	3xD	.06xD	
	36	Titanium alloys	Pure	325	190	.001-.0018	.0013-.0024	.0013-.0025	.002-.0036	.0026-.0048	.0025-.005	.004-.0072	.0052-.0096	3xD	.06xD	
	37		Alpha+Beta alloys, hardened	165-325	310	.0007-.0014	.001-.0019	.0013-.0023	.0014-.0028	.002-.0038	.0026-.0046	.0028-.0056	.004-.0076	3xD	.10xD	
H	38	Hardened steel	Hardened	110-210	55HRC	.0012-.0021	.0016-.0029	.002-.0036	.0024-.0042	.0032-.0058	.004-.0072	.0048-.0084	.0064-.0116	3xD	.04xD	
	39		Hardened	110-145	60HRC	.0016-.003	.0022-.004	.0028-.005	.0032-.006	.0044-.008	.0056-.010	.0064-.012	.0088-.016	3xD	.02xD	
	40	Chilled cast iron	Cast	250-320	400	.001-.0019	.0014-.0026	.0018-.0032	.002-.0038	.0028-.0052	.0036-.0064	.004-.0076	.0056-.0104	3xD	.05xD	
	41	Cast iron	Hardened	110-210	55HRC	.0012-.0021	.0016-.0029	.002-.0036	.0024-.0042	.0032-.0058	.004-.0072	.0048-.0084	.0064-.0116	3xD	.04xD	

## Semi-Finish and Finishing

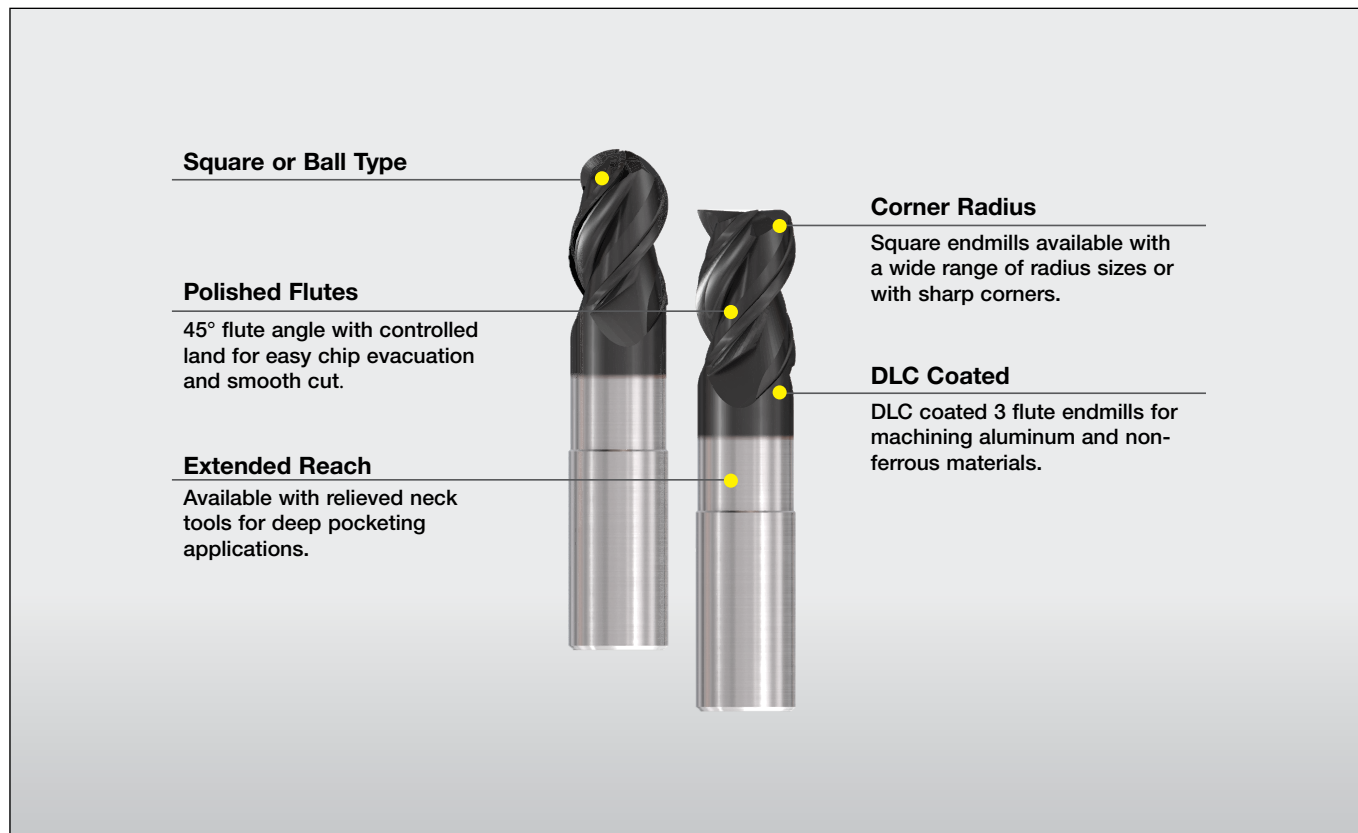
ISO	Material Group No.	Material	Condition	Cutting Speed Recommendations V <sub>c</sub> (SFM)	Hardness HB	Feed (IPT) per Cutting Diameter (inch)								Finishing		
						3/16	1/4	5/16	3/8	1/2	5/8	3/4	1	a <sub>p</sub>	a <sub>e</sub>	
P	1	Non-alloy steel and cast steel, free cutting steel	<0.25% C	Annealed	1020-1100	125	.0017	.0022	.0028	.0033	.0044	.0055	.0066	.0088	Full	.02xD
	2		≥0.25% C	Annealed	820-940	190	.0017	.0022	.0028	.0033	.0044	.0055	.0066	.0088	Full	.02xD
	3		<0.55% C	Quenched and tempered	650-890	250	.0017	.0022	.0028	.0033	.0044	.0055	.0066	.0088	Full	.02xD
	4		≥0.55% C	Annealed	650-890	220	.0017	.0022	.0028	.0033	.0044	.0055	.0066	.0088	Full	.02xD
	5	Quenched & tempered		570-730	300	.0017	.0022	.0028	.0033	.0044	.0055	.0066	.0088	Full	.02xD	
	6	Low alloy & cast steel (less than 5% of alloying elements)	Annealed	650-890	200	.0017	.0022	.0028	.0033	.0044	.0055	.0066	.0088	Full	.02xD	
	7		Quenched & tempered	490-730	275	.0017	.0022	.0028	.0033	.0044	.0055	.0066	.0088	Full	.02xD	
	8		Quenched & tempered	520-730	300	.0017	.0022	.0028	.0033	.0044	.0055	.0066	.0088	Full	.02xD	
	9		Quenched & tempered	570-730	350	.0017	.0022	.0028	.0033	.0044	.0055	.0066	.0088	Full	.02xD	
	10	High alloyed steel, cast steel and tool steel	Annealed	520-730	200	.0017	.0022	.0028	.0033	.0044	.0055	.0066	.0088	Full	.02xD	
	11		Quenched & tempered	280-490	325	.0017	.0022	.0028	.0033	.0044	.0055	.0066	.0088	Full	.02xD	
	12	Stainless steel and cast steel	Ferritic/martensitic	320-650	200	.0017	.0022	.0028	.0033	.0044	.0055	.0066	.0088	Full	.02xD	
13	Martensitic		240-610	240	.0017	.0022	.0028	.0033	.0044	.0055	.0066	.0088	Full	.02xD		
M	14	Stainless steel and cast steel	Austenitic, duplex	240-490	180	.0017	.0022	.0028	.0033	.0044	.0055	.0066	.0088	Full	.02xD	
K	15	Grey cast iron (GG)	Ferritic / pearlitic	320-1020	180	.0017	.0022	.0028	.0033	.0044	.0055	.0066	.0088	Full	.02xD	
	16		Pearlitic/martensitic	520-980	260	.0017	.0022	.0028	.0033	.0044	.0055	.0066	.0088	Full	.02xD	
	17	Nodular cast iron (GGG)	Ferritic	610-1100	160	.0017	.0022	.0028	.0033	.0044	.0055	.0066	.0088	Full	.02xD	
	18		Pearlitic	610-1100	250	.0017	.0022	.0028	.0033	.0044	.0055	.0066	.0088	Full	.02xD	
	19	Malleable cast iron	Ferritic	610-1100	130	.0017	.0022	.0028	.0033	.0044	.0055	.0066	.0088	Full	.02xD	
	20		Pearlitic	570-980	230	.0017	.0022	.0028	.0033	.0044	.0055	.0066	.0088	Full	.02xD	
S	31	High temp. alloys	Fe based	Annealed	80-160	200	.0017	.0022	.0028	.0033	.0044	.0055	.0066	.0088	Full	.02xD
	32			Hardened	80-120	280	.0017	.0022	.0028	.0033	.0044	.0055	.0066	.0088	Full	.02xD
	33	Ni or Co based	Annealed	80-120	250	.0017	.0022	.0028	.0033	.0044	.0055	.0066	.0088	Full	.02xD	
	34		Hardened	80-120	350	.0017	.0022	.0028	.0033	.0044	.0055	.0066	.0088	Full	.02xD	
	35		Cast	80-120	320	.0017	.0022	.0028	.0033	.0044	.0055	.0066	.0088	Full	.02xD	
	36		Pure	120-390	190	.0017	.0022	.0028	.0033	.0044	.0055	.0066	.0088	Full	.02xD	
37	Titanium alloys	Alpha+Beta alloys, hardened	300-390	310	.0017	.0022	.0028	.0033	.0044	.0055	.0066	.0088	Full	.02xD		
H	38	Hardened steel	Hardened	120-240	55 HRC	.0017	.0022	.0028	.0033	.0044	.0055	.0066	.0088	Full	.02xD	
	39		Hardened	120-160	60 HRC	.0017	.0022	.0028	.0033	.0044	.0055	.0066	.0088	Full	.02xD	
	40	Chilled cast iron	Cast	290-370	400	.0017	.0022	.0028	.0033	.0044	.0055	.0066	.0088	Full	.02xD	
	41	Cast iron	Hardened	120-240	55 HRC	.0017	.0022	.0028	.0033	.0044	.0055	.0066	.0088	Full	.02xD	

The tools are coated with Ta-C diamond like coating also known as DLC coating.

Ta-C (Tetrahedral Amorphous Carbon) type coating, considered the superior type among the different DLC forms, provides superb qualities such as hardness, wear resistance, and slickness, consequently prolonging tool life significantly and diminishing chip jamming.

Properties for ideal machining non-ferrous materials:

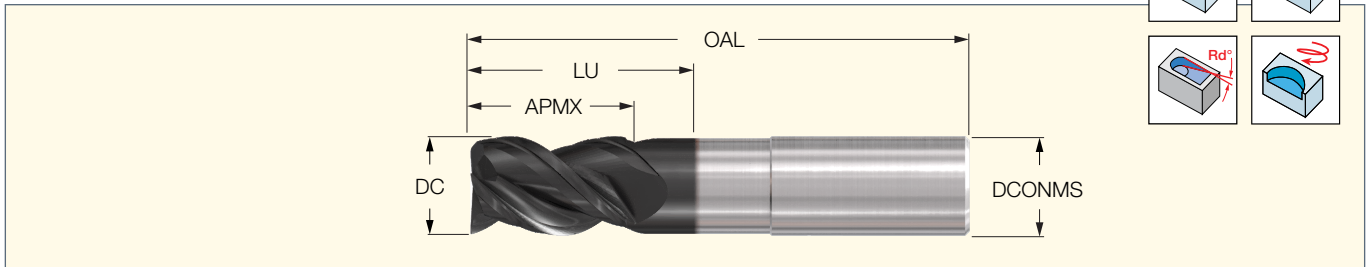
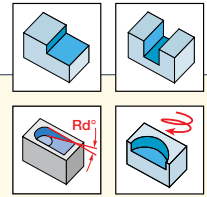
- Aluminum and Aluminum alloys with up to 12% Si content
- Copper, Bronze, Silver, Gold and Platinum
- Carbon and plastic





**ECAI-B3-EC**

DLC Coated 3 Flute Endmills for Machining  
Aluminum and Other Non-Ferrous Materials

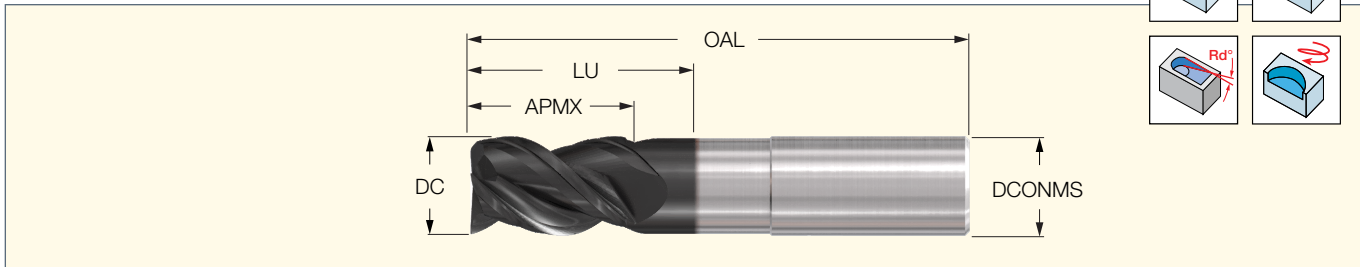
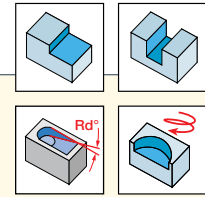


Designation	DC	APMX	LU	RE	DCONMS	OAL	NOF <sup>(1)</sup>
ECAI-B3 .125-.3CR0-1.5EC	.125	.2500	.2500	0	.125	1.500	3
ECAI-B3 .125-.3CR015-1.5	.125	.2500	.2500	.0150	.125	1.500	3
ECAI-B3 .125-.5CR0-1.5EC	.125	.5000	.5000	0	.125	1.500	3
ECAI-B3 .125-.5CR015-1.5	.125	.5000	.5000	.0150	.125	1.500	3
ECAI-B3 .187-.3CR0-2EC	.187	.3150	.3200	0	.187	2.000	3
ECAI-B3 .187-.3CR015-2EC	.187	.3150	.3200	.0150	.187	2.000	3
ECAI-B3 .187-.6CR0-2EC	.187	.5620	.5700	0	.187	2.000	3
ECAI-B3 .187-.6CR015-2EC	.187	.5620	.5700	.0150	.187	2.000	3
ECAI-B3 .25-.38CR0-2EC	.250	.3750	.3750	0	.250	2.000	3
ECAI-B3 .25-.4CR015-2EC	.250	.3750	.3750	.0150	.250	2.000	3
ECAI-B3 .25-.4CR03-2EC	.250	.3750	.3750	.0300	.250	2.000	3
ECAI-B3 .25-.5/1.2CR0-3EC	.250	.5000	1.2500	0	.250	3.000	3
ECAI-B3 .25-.5/1.3CR15-3	.250	.5000	1.2500	.0150	.250	3.000	3
ECAI-B3 .25-.5/1.3CR03-3	.250	.5000	1.2500	.0300	.250	3.000	3
ECAI-B3 .25-.5/1.3CR06-3	.250	.5000	1.2500	.0600	.250	3.000	3
ECAI-B3 .25-.5/2.1CR0-4EC	.250	.5000	2.1250	0	.250	4.000	3
ECAI-B3 .25-.5/2CR015-4EC	.250	.5000	2.1250	.0150	.250	4.000	3
ECAI-B3 .25-.5/2.1CR03-4EC	.250	.5000	2.1250	.0300	.250	4.000	3
ECAI-B3 .25-.5/2.1CR06-4EC	.250	.5000	2.1250	.0600	.250	4.000	3
ECAI-B3 .25-.75CR0-2.5EC	.250	.7500	.7500	0	.250	2.500	3
ECAI-B3 .25-.8CR015-2.5EC	.250	.7500	.7500	.0150	.250	2.500	3
ECAI-B3 .25-.8CR03-2.5EC	.250	.7500	.7500	.0300	.250	2.500	3
ECAI-B3 .25-1CR0-3EC	.250	1.0000	1.0000	0	.250	3.000	3
ECAI-B3 .25-1CR015-3.EC	.250	1.0000	1.0000	.0150	.250	3.000	3
ECAI-B3 .25-1CR03-3.EC	.250	1.0000	1.0000	.0300	.250	3.000	3
ECAI-B3 .25-1.25CR0-4EC	.250	1.2500	1.2500	0	.250	4.000	3
ECAI-B3 .25-1.3CR015-4EC	.250	1.2500	1.2500	.0150	.250	4.000	3
ECAI-B3 .25-1.3CR03-4EC	.250	1.2500	1.2500	.0300	.250	4.000	3
ECAI-B3 .312-.5CR0-2EC	.312	.5000	.5000	0	.313	2.000	3
ECAI-B3 .312-.5CR015-2EC	.312	.5000	.5000	.0150	.312	2.000	3
ECAI-B3 .312-.5CR03-2EC	.312	.5000	.5000	.0300	.312	2.000	3
ECAI-B3 .312-.9CR0-2.5EC	.312	.8750	.8750	0	.313	2.500	3
ECAI-B3 .312-.9CR015-2.5	.312	.8750	.8750	.0150	.312	2.500	3
ECAI-B3 .312-.9CR03-2.5EC	.312	.8750	.8750	.0300	.312	2.500	3
ECAI-B3 .312-1CR0-3EC	.312	1.0000	1.0000	0	.313	3.000	3
ECAI-B3 .312-1CR015-3EC	.312	1.0000	1.0000	.0150	.312	3.000	3
ECAI-B3 .312-1CR03-3EC	.312	1.0000	1.0000	.0300	.312	3.000	3
ECAI-B3 .312-1.3CR0-4EC	.312	1.2500	1.2500	0	.313	4.000	3
ECAI-B3 .312-1.3CR015-4EC	.312	1.2500	1.2500	.0150	.312	4.000	3
ECAI-B3 .312-1.3CR03-4EC	.312	1.2500	1.2500	.0300	.312	4.000	3
ECAI-B3 .375-.5CR0-2EC	.375	.5000	.5000	0	.375	2.000	3
ECAI-B3 .375-.5CR015-2EC	.375	.5000	.5000	.0150	.375	2.000	3
ECAI-B3 .375-.5CR03-2EC	.375	.5000	.5000	.0300	.375	2.000	3
ECAI-B3 .375-.5CR06-2EC	.375	.5000	.5000	.0600	.375	2.000	3
ECAI-B3 .375-.5CR875-2EC	.375	.5000	.5000	.1875	.375	2.000	3
ECAI-B3 .375-.5CR09-2EC	.375	.5000	.5000	.0900	.375	2.000	3
ECAI-B3 .375-.5CR125-2EC	.375	.5000	.5000	.1250	.375	2.000	3
ECAI-B3 .375-.8/1.2C-3EC	.375	.7500	1.2500	0	.375	3.000	3
ECAI-B3 .375-.8/1.3CR15-3	.375	.7500	1.2500	.0150	.375	3.000	3
ECAI-B3 .375-.8/1.3CR03-3	.375	.7500	1.2500	.0300	.375	3.000	3
ECAI-B3 .375-.8/1.3CR06-3	.375	.7500	1.2500	.0600	.375	3.000	3
ECAI-B3 .375-.8/1.3CR09-3	.375	.7500	1.2500	.0900	.375	3.000	3

<sup>(1)</sup> Number of flutes

**ECAI-B3-EC** continued

DLC Coated 3 Flute Endmills for Machining  
Aluminum and Other Non-Ferrous Materials

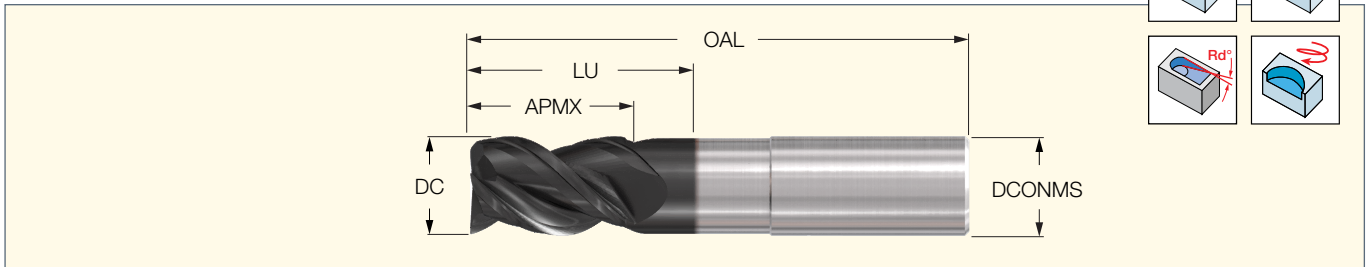
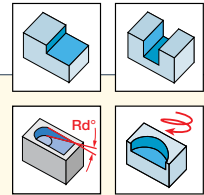


Designation	DC	APMX	LU	RE	DCONMS	OAL	NOF <sup>(1)</sup>
ECAI-B3 .375-.8/1.3CR12-3	.375	.7500	1.2500	.1200	.375	3.000	3
EBAI-B3 375-.8/1.3-3EC	.375	.7500	1.2500	.1800	.375	3.000	3
ECAI-B3 .375-.8/2.1C-4EC	.375	.7500	2.1250	0	.375	4.000	3
ECAI-B3 .375-.8/2.1CR15-4	.375	.7500	2.1250	.0150	.375	4.000	3
ECAI-B3 .375-.8/2.1CR03-4	.375	.7500	2.1250	.0300	.375	4.000	3
ECAI-B3 .375-.8/2.1CR06-4	.375	.7500	2.1250	.0600	.375	4.000	3
ECAI-B3 .375-.8/2.1CR09-4	.375	.7500	2.1250	.0900	.375	4.000	3
ECAI-B3 .375-.8/2.1CR12-4	.375	.7500	2.1250	.1200	.375	4.000	3
ECAI-B3 .375-.8/2.1CR18-4	.375	.7500	2.1250	.1800	.375	4.000	3
ECAI-B3 .375-1CR0-2.5EC	.375	1.0000	1.0000	0	.375	2.500	3
ECAI-B3 .375-1CR015-2.5EC	.375	1.0000	1.0000	.0150	.375	2.500	3
ECAI-B3 .375-1CR03-2.5EC	.375	1.0000	1.0000	.0300	.375	2.500	3
ECAI-B3 .375-1CR06-2.5EC	.375	1.0000	1.0000	.0600	.375	2.500	3
ECAI-B3 .375-1CR09-2.5EC	.375	1.0000	1.0000	.0900	.375	2.500	3
ECAI-B3 .375-1CR125-2.5EC	.375	1.0000	1.0000	.1250	.375	2.500	3
ECAI-B3 .375-1CR875-2.5EC	.375	1.0000	1.0000	.1875	.375	2.500	3
ECAI-B3 .375-1CR0-3EC	.375	1.0000	1.0000	0	.375	3.000	3
ECAI-B3 .375-1CR015-3EC	.375	1.0000	1.0000	.0150	.375	3.000	3
ECAI-B3 .375-1CR03-3EC	.375	1.0000	1.0000	.0300	.375	3.000	3
ECAI-B3 .375-1CR06-3EC	.375	1.0000	1.0000	.0600	.375	3.000	3
ECAI-B3 .375-1CR09-3EC	.375	1.0000	1.0000	.0900	.375	3.000	3
ECAI-B3 .375-1CR125-3EC	.375	1.0000	1.0000	.1250	.375	3.000	3
ECAI-B3 .375-1CR875-3EC	.375	1.0000	1.0000	.1875	.375	3.000	3
ECAI-B3 .375-1.5CR0-4EC	.375	1.5000	1.5000	0	.375	4.000	3
ECAI-B3 .375-1.5CR015-4EC	.375	1.5000	1.5000	.0150	.375	4.000	3
ECAI-B3 .375-1.5CR03-4EC	.375	1.5000	1.5000	.0300	.375	4.000	3
ECAI-B3 .375-1.5CR06-4EC	.375	1.5000	1.5000	.0600	.375	4.000	3
ECAI-B3 .375-1.5CR09-4EC	.375	1.5000	1.5000	.0900	.375	4.000	3
ECAI-B3 .375-1.5CR125-4EC	.375	1.5000	1.5000	.1250	.375	4.000	3
EBAI-B3 .375-1.5C-4.EC	.375	1.5000	1.5000	.1875	.375	4.000	3
ECAI-B3 .437-1CR0-2.75EC	.437	1.0000	1.0000	0	.432	2.750	3
ECAI-B3 .437-1CR015-2.8EC	.437	1.0000	1.0000	.0150	.437	2.750	3
ECAI-B3 .437-1CR03-2.8EC	.437	1.0000	1.0000	.0300	.437	2.750	3
ECAI-B3 .437-1CR06-2.8EC	.437	1.0000	1.0000	.0600	.437	2.750	3
ECAI-B3 .437-1CR09-2.8EC	.437	1.0000	1.0000	.0900	.437	2.750	3
ECAI-B3 .437-1CR125-2.8EC	.437	1.0000	1.0000	.1250	.437	2.750	3
ECAI-B3 .437-1.5CR0-4EC	.437	1.5000	1.5000	0	.432	4.000	3
ECAI-B3 .437-1.5CR015-4EC	.437	1.5000	1.5000	.0150	.437	4.000	3
ECAI-B3 .437-1.5CR03-4EC	.437	1.5000	1.5000	.0300	.437	4.000	3
ECAI-B3 .437-1.5CR06-4EC	.437	1.5000	1.5000	.0600	.437	4.000	3
ECAI-B3 .437-1.5CR09-4EC	.437	1.5000	1.5000	.0900	.437	4.000	3
ECAI-B3 .437-1.5CR125-4EC	.437	1.5000	1.5000	.1250	.437	4.000	3
ECAI-B3 .437-2CR0-4EC	.437	2.0000	2.0000	0	.432	4.000	3
ECAI-B3 .437-2CR015-4EC	.437	2.0000	2.0000	.0150	.437	4.000	3
ECAI-B3 .437-2CR03-4EC	.437	2.0000	2.0000	.0300	.437	4.000	3
ECAI-B3 .437-2CR06-4EC	.437	2.0000	2.0000	.0600	.437	4.000	3
ECAI-B3 .437-2CR09-4EC	.437	2.0000	2.0000	.0900	.437	4.000	3
ECAI-B3 .437-2CR125-4EC	.437	2.0000	2.0000	.1250	.437	4.000	3
ECAI-B3 .5-.6CR0-2.5EC	.500	.6250	.6250	0	.500	2.500	3
ECAI-B3 .5-.6CR015-2.5EC	.500	.6250	.6250	.0150	.500	2.500	3
ECAI-B3 .5-.6CR03-2.5EC	.500	.6250	.6250	.0300	.500	2.500	3
ECAI-B3 .5-.6CR06-2.5EC	.500	.6250	.6250	.0600	.500	2.500	3

(1) Number of flutes

**ECAI-B3-EC** continued

DLC Coated 3 Flute Endmills for Machining  
Aluminum and Other Non-Ferrous Materials

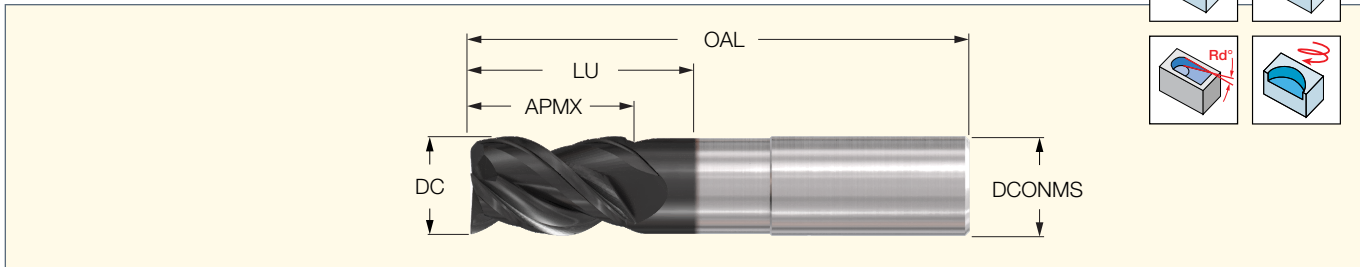
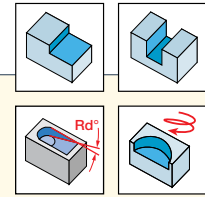


Designation	DC	APMX	LU	RE	DCONMS	OAL	NOF <sup>(1)</sup>
ECAI-B3 .5-.6CR09-2.5EC	.500	.6250	.6250	.0900	.500	2.500	3
ECAI-B3 .5-.6CR125-2.5EC	.500	.6250	.6250	.1250	.500	2.500	3
ECAI-B3 .5-0.8/1.3CR0-3EC	.500	.8750	1.3750	0	.500	3.000	3
ECAI-B3 .5-.9/1.4CR015-3	.500	.8750	1.3750	.0150	.500	3.000	3
ECAI-B3 .5-.9/1.4CR03-3EC	.500	.8750	1.3750	.0300	.500	3.000	3
ECAI-B3 .5-.9/1.4CR06-3EC	.500	.8750	1.3750	.0600	.500	3.000	3
ECAI-B3 .5-.9/1.4CR09-3EC	.500	.8750	1.3750	.0900	.500	3.000	3
ECAI-B3 .5-.9/1.4CR12-3EC	.500	.8750	1.3750	.1250	.500	3.000	3
ECAI-B3 .5-0.8/2.1CR0-4EC	.500	.8750	2.1250	0	.500	4.000	3
ECAI-B3 .5-.9/2.1CR015-4EC	.500	.8750	2.1250	.0150	.500	4.000	3
ECAI-B3 .5-.9/2.1CR03-4EC	.500	.8750	2.1250	.0300	.500	4.000	3
ECAI-B3 .5-.9/2.1CR06-4EC	.500	.8750	2.1250	.0600	.500	4.000	3
ECAI-B3 .5-.9/2.1CR09-4EC	.500	.8750	2.1250	.0900	.500	4.000	3
ECAI-B3 .5-.9/2.1CR125-4EC	.500	.8750	2.1250	.1250	.500	4.000	3
ECAI-B3 .5-0.8/3.1CR0-5EC	.500	.8750	3.1250	0	.500	5.000	3
ECAI-B3 .5-.9/3.1CR015-5EC	.500	.8750	3.1250	.0150	.500	5.000	3
ECAI-B3 .5-.9/3.1CR03-5EC	.500	.8750	3.1250	.0300	.500	5.000	3
ECAI-B3 .5-.9/3.1CR06-5EC	.500	.8750	3.1250	.0600	.500	5.000	3
ECAI-B3 .5-.9/3.1CR09-5EC	.500	.8750	3.1250	.0900	.500	5.000	3
ECAI-B3 .5-.9/3.1CR125-5EC	.500	.8750	3.1250	.1250	.500	5.000	3
ECAI-B3 .5-0.8/4.1CR0-6EC	.500	.8750	4.1250	0	.500	6.000	3
ECAI-B3 .5-.9/4.1CR015-6EC	.500	.8750	4.1250	.0150	.500	6.000	3
ECAI-B3 .5-.9/4.1CR03-6EC	.500	.8750	4.1250	.0300	.500	6.000	3
ECAI-B3 .5-.9/4.1CR06-6EC	.500	.8750	4.1250	.0600	.500	6.000	3
ECAI-B3 .5-.9/4.1CR09-6EC	.500	.8750	4.1250	.0900	.500	6.000	3
ECAI-B3 .5-.9/4.1CR125-6EC	.500	.8750	4.1250	.1250	.500	6.000	3
ECAI-B3 .5-1.3CR0-3EC	.500	1.2500	1.2500	0	.500	3.000	3
ECAI-B3 .5-1.3CR015-3EC	.500	1.2500	1.2500	.0150	.500	3.000	3
ECAI-B3 .5-1.3CR03-3EC	.500	1.2500	1.2500	.0300	.500	3.000	3
ECAI-B3 .5-1.3CR06-3EC	.500	1.2500	1.2500	.0600	.500	3.000	3
ECAI-B3 .5-1.3CR09-3EC	.500	1.2500	1.2500	.0900	.500	3.000	3
ECAI-B3 .5-1.3CR125-3EC	.500	1.2500	1.2500	.1250	.500	3.000	3
ECAI-B3 .5-1.5CR0-4EC	.500	1.5000	1.5000	0	.500	4.000	3
ECAI-B3 .5-1.5CR015-4EC	.500	1.5000	1.5000	.0150	.500	4.000	3
ECAI-B3 .5-1.5CR03-4EC	.500	1.5000	1.5000	.0300	.500	4.000	3
ECAI-B3 .5-1.5CR06-4EC	.500	1.5000	1.5000	.0600	.500	4.000	3
ECAI-B3 .5-1.5CR09-4EC	.500	1.5000	1.5000	.0900	.500	4.000	3
ECAI-B3 .5-1.5CR125-4EC	.500	1.5000	1.5000	.1250	.500	4.000	3
ECAI-B3 .5-1.5CR0-6EC	.500	1.5000	1.5000	0	.500	6.000	3
ECAI-B3 .5-1.5CR015-6EC	.500	1.5000	1.5000	.0150	.500	6.000	3
ECAI-B3 .5-1.5CR03-6EC	.500	1.5000	1.5000	.0300	.500	6.000	3
ECAI-B3 .5-1.5CR06-6EC	.500	1.5000	1.5000	.0600	.500	6.000	3
ECAI-B3 .5-1.5CR09-6EC	.500	1.5000	1.5000	.0900	.500	6.000	3
ECAI-B3 .5-1.5CR125-6EC	.500	1.5000	1.5000	.1250	.500	6.000	3
ECAI-B3 .5-2CR0-4EC	.500	2.0000	2.0000	0	.500	4.000	3
ECAI-B3 .5-2CR015-4EC	.500	2.0000	2.0000	.0150	.500	4.000	3
ECAI-B3 .5-2CR03-4EC	.500	2.0000	2.0000	.0300	.500	4.000	3
ECAI-B3 .5-2CR06-4EC	.500	2.0000	2.0000	.0600	.500	4.000	3
ECAI-B3 .5-2CR09-4EC	.500	2.0000	2.0000	.0900	.500	4.000	3
ECAI-B3 .5-2CR125-4EC	.500	2.0000	2.0000	.1250	.500	4.000	3
ECAI-B3 .5-2.5CR0-5EC	.500	2.5000	2.5000	0	.500	5.000	3
ECAI-B3 .5-2.5CR015-5EC	.500	2.5000	2.5000	.0150	.500	5.000	3

<sup>(1)</sup> Number of flutes

**ECAI-B3-EC** continued

DLC Coated 3 Flute Endmills for Machining  
Aluminum and Other Non-Ferrous Materials

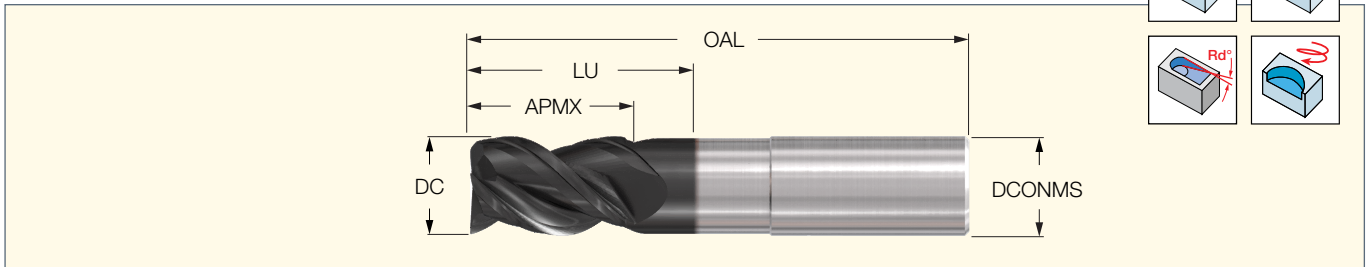
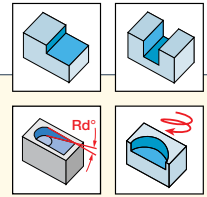


Designation	DC	APMX	LU	RE	DCONMS	OAL	NOF <sup>(1)</sup>
ECAI-B3 .5-2.5CR03-5EC	.500	2.5000	2.5000	.0300	.500	5.000	3
ECAI-B3 .5-2.5CR06-5EC	.500	2.5000	2.5000	.0600	.500	5.000	3
ECAI-B3 .5-2.5CR09-5EC	.500	2.5000	2.5000	.0900	.500	5.000	3
ECAI-B3 .5-2.5CR125-5EC	.500	2.5000	2.5000	.1250	.500	5.000	3
ECAI-B3 .5-3.1CR0-6EC	.500	3.1250	3.1250	0	.500	6.000	3
ECAI-B3 .5-3.1CR015-6EC	.500	3.1250	3.1250	.0150	.500	6.000	3
ECAI-B3 .5-3.1CR06-6EC	.500	3.1250	3.1250	.0600	.500	6.000	3
ECAI-B3 .5-3.1CR09-6EC	.500	3.1250	3.1250	.0900	.500	6.000	3
ECAI-B3 .5-3.1CR03-6EC	.500	3.1250	3.1250	.0300	.500	6.000	3
ECAI-B3 .5-3.1CR125-6EC	.500	3.1250	3.1250	.1250	.500	6.000	3
ECAI-B3 .625-.8CR0-3EC	.625	.7500	.7500	0	.625	3.000	3
ECAI-B3 .625-.8CR015-3EC	.625	.7500	.7500	.0150	.625	3.000	3
ECAI-B3 .625-.8CR03-3EC	.625	.7500	.7500	.0300	.625	3.000	3
ECAI-B3 .625-.8CR06-3EC	.625	.7500	.7500	.0600	.625	3.000	3
ECAI-B3 .625-.8CR09-3EC	.625	.7500	.7500	.0900	.625	3.000	3
ECAI-B3 .625-.8CR125-3EC	.625	.7500	.7500	.1250	.625	3.000	3
ECAI-B3 .625-1/2CR0-4EC	.625	1.0000	2.0000	0	.625	4.000	3
ECAI-B3 .625-1/2CR015-4EC	.625	1.0000	2.0000	.0150	.625	4.000	3
ECAI-B3 .625-1/2CR03-4EC	.625	1.0000	2.0000	.0300	.625	4.000	3
ECAI-B3 .625-1/2CR06-4EC	.625	1.0000	2.0000	.0600	.625	4.000	3
ECAI-B3 .625-1/2CR09-4EC	.625	1.0000	2.0000	.0900	.625	4.000	3
ECAI-B3 .625-1/2CR125-4EC	.625	1.0000	2.0000	.1250	.625	4.000	3
ECAI-B3 .625-1/3CR0-5EC	.625	1.0000	3.0000	0	.625	5.000	3
ECAI-B3 .625-1/3CR015-5EC	.625	1.0000	3.0000	.0150	.625	5.000	3
ECAI-B3 .625-1/3CR03-5EC	.625	1.0000	3.0000	.0300	.625	5.000	3
ECAI-B3 .625-1/3CR06-5EC	.625	1.0000	3.0000	.0600	.625	5.000	3
ECAI-B3 .625-1/3CR09-5EC	.625	1.0000	3.0000	.0900	.625	5.000	3
ECAI-B3 .625-1/3CR125-5EC	.625	1.0000	3.0000	.1250	.625	5.000	3
ECAI-B3 .625-1/4CR0-6EC	.625	1.0000	4.0000	0	.625	6.000	3
ECAI-B3 .625-1/4CR015-6EC	.625	1.0000	4.0000	.0150	.625	6.000	3
ECAI-B3 .625-1/4CR03-6EC	.625	1.0000	4.0000	.0300	.625	6.000	3
ECAI-B3 .625-1/4CR06-6EC	.625	1.0000	4.0000	.0600	.625	6.000	3
ECAI-B3 .625-1/4CR09-6EC	.625	1.0000	4.0000	.0900	.625	6.000	3
ECAI-B3 .625-1/4CR125-6EC	.625	1.0000	4.0000	.1250	.625	6.000	3
ECAI-B3 .625-1.3CR0-3.5EC	.625	1.2500	1.2500	0	.625	3.500	3
ECAI-B3 .625-1.3CR15-3.5	.625	1.2500	1.2500	.0150	.625	3.500	3
ECAI-B3 .625-1.3CR03-3.5	.625	1.2500	1.2500	.0300	.625	3.500	3
ECAI-B3 .625-1.3CR06-3.5	.625	1.2500	1.2500	.0600	.625	3.500	3
ECAI-B3 .625-1.3CR09-3.5	.625	1.2500	1.2500	.0900	.625	3.500	3
ECAI-B3 .625-1.3CR125-3.5	.625	1.2500	1.2500	.1250	.625	3.500	3
ECAI-B3 .625-1.5CR0-6EC	.625	1.5000	1.5000	0	.625	6.000	3
ECAI-B3 .625-1.5CR015-6EC	.625	1.5000	1.5000	.0150	.625	6.000	3
ECAI-B3 .625-1.5CR03-6EC	.625	1.5000	1.5000	.0300	.625	6.000	3
ECAI-B3 .625-1.5CR06-6EC	.625	1.5000	1.5000	.0600	.625	6.000	3
ECAI-B3 .625-1.5CR09-6EC	.625	1.5000	1.5000	.0900	.625	6.000	3
ECAI-B3 .625-1.5CR125-6EC	.625	1.5000	1.5000	.1250	.625	6.000	3
ECAI-B3 .625-2CR0-4EC	.625	2.0000	2.0000	0	.625	4.000	3
ECAI-B3 .625-2CR015-4EC	.625	2.0000	2.0000	.0150	.625	4.000	3
ECAI-B3 .625-2CR03-4EC	.625	2.0000	2.0000	.0300	.625	4.000	3
ECAI-B3 .625-2CR06-4EC	.625	2.0000	2.0000	.0600	.625	4.000	3
ECAI-B3 .625-2CR09-4EC	.625	2.0000	2.0000	.0900	.625	4.000	3
ECAI-B3 .625-2CR125-4EC	.625	2.0000	2.0000	.1250	.625	4.000	3

<sup>(1)</sup> Number of flutes

**ECAI-B3-EC** continued

DLC Coated 3 Flute Endmills for Machining  
Aluminum and Other Non-Ferrous Materials

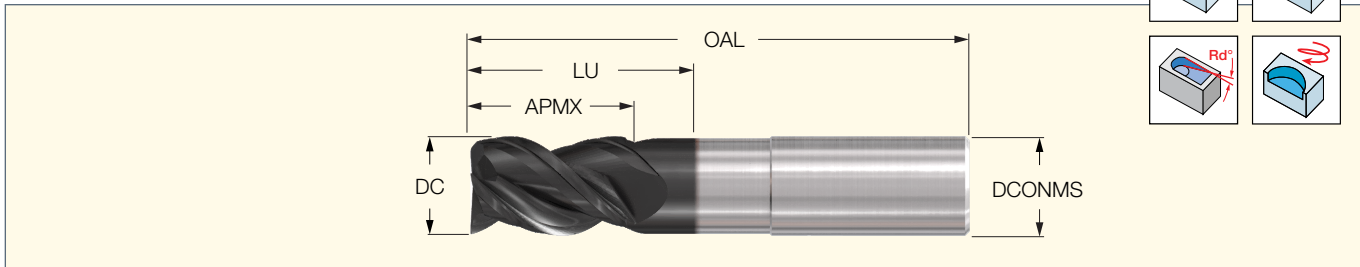
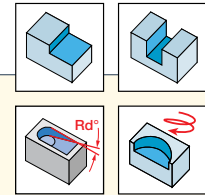


Designation	DC	APMX	LU	RE	DCONMS	OAL	NOF <sup>(1)</sup>
ECAI-B3 .625-2.3CR0-5EC	.625	2.2500	2.2500	0	.625	5.000	3
ECAI-B3 .625-2.3CR015-5EC	.625	2.2500	2.2500	.0150	.625	5.000	3
ECAI-B3 .625-2.3CR03-5EC	.625	2.2500	2.2500	.0300	.625	5.000	3
ECAI-B3 .625-2.3CR06-5EC	.625	2.2500	2.2500	.0600	.625	5.000	3
ECAI-B3 .625-2.3CR09-5EC	.625	2.2500	2.2500	.0900	.625	5.000	3
ECAI-B3 .625-2.3CR125-5EC	.625	2.2500	2.2500	.1250	.625	5.000	3
ECAI-B3 .625-3CR0-6EC	.625	3.0000	3.0000	0	.625	6.000	3
ECAI-B3 .625-3CR015-6EC	.625	3.0000	3.0000	.0150	.625	6.000	3
ECAI-B3 .625-3CR03-6EC	.625	3.0000	3.0000	.0300	.625	6.000	3
ECAI-B3 .625-3CR06-6EC	.625	3.0000	3.0000	.0600	.625	6.000	3
ECAI-B3 .625-3CR09-6EC	.625	3.0000	3.0000	.0900	.625	6.000	3
ECAI-B3 .625-3CR125-6EC	.625	3.0000	3.0000	.1250	.625	6.000	3
ECAI-B3 .75-1CR0-3EC	.750	1.0000	1.0000	0	.750	3.000	3
ECAI-B3 .75-1CR015-3EC	.750	1.0000	1.0000	.0150	.750	3.000	3
ECAI-B3 .75-1CR03-3EC	.750	1.0000	1.0000	.0300	.750	3.000	3
ECAI-B3 .75-1CR06-3EC	.750	1.0000	1.0000	.0600	.750	3.000	3
ECAI-B3 .75-1CR09-3EC	.750	1.0000	1.0000	.0900	.750	3.000	3
ECAI-B3 .75-1CR125-3EC	.750	1.0000	1.0000	.1250	.750	3.000	3
ECAI-B3 .75-1.25/2CR0-4EC	.750	1.2500	2.0000	0	.750	4.000	3
ECAI-B3 .75-1.3/2CR015-4	.750	1.2500	2.0000	.0150	.750	4.000	3
ECAI-B3 .75-1.3/2CR03-4EC	.750	1.2500	2.0000	.0300	.750	4.000	3
ECAI-B3 .75-1.3/2CR06-4EC	.750	1.2500	2.0000	.0600	.750	4.000	3
ECAI-B3 .75-1.3/2CR09-4EC	.750	1.2500	2.0000	.0900	.750	4.000	3
ECAI-B3 .75-1.3/2CR125-4	.750	1.2500	2.0000	.1250	.750	4.000	3
ECAI-B3 .75-1.25/3CR0-5EC	.750	1.2500	3.0000	0	.750	5.000	3
ECAI-B3 .75-1.3/3CR015-5	.750	1.2500	3.0000	.0150	.750	5.000	3
ECAI-B3 .75-1.3/3CR03-5EC	.750	1.2500	3.0000	.0300	.750	5.000	3
ECAI-B3 .75-1.3/3CR06-5EC	.750	1.2500	3.0000	.0600	.750	5.000	3
ECAI-B3 .75-1.3/3CR09-5EC	.750	1.2500	3.0000	.0900	.750	5.000	3
ECAI-B3 .75-1.3/3CR125-5	.750	1.2500	3.0000	.1250	.750	5.000	3
ECAI-B3 .75-1.25/4CR0-6EC	.750	1.2500	4.0000	0	.750	6.000	3
ECAI-B3 .75-1.3/4CR015-6	.750	1.2500	4.0000	.0150	.750	6.000	3
ECAI-B3 .75-1.3/4CR03-6EC	.750	1.2500	4.0000	.0300	.750	6.000	3
ECAI-B3 .75-1.3/4CR06-6EC	.750	1.2500	4.0000	.0600	.750	6.000	3
ECAI-B3 .75-1.3/4CR09-6EC	.750	1.2500	4.0000	.0900	.750	6.000	3
ECAI-B3 .75-1.3/4CR125-6	.750	1.2500	4.0000	.1250	.750	6.000	3
ECAI-B3 .75-1.5CR0-6EC	.750	1.5000	1.5000	0	.750	6.000	3
ECAI-B3 .75-1.5CR015-6EC	.750	1.5000	1.5000	.0150	.750	6.000	3
ECAI-B3 .75-1.5CR03-6EC	.750	1.5000	1.5000	.0300	.750	6.000	3
ECAI-B3 .75-1.5CR06-6EC	.750	1.5000	1.5000	.0600	.750	6.000	3
ECAI-B3 .75-1.5CR09-6EC	.750	1.5000	1.5000	.0900	.750	6.000	3
ECAI-B3 .75-1.5CR125-6EC	.750	1.5000	1.5000	.1250	.750	6.000	3
ECAI-B3 .75-1.6CR0-4EC	.750	1.6250	1.6250	0	.750	4.000	3
ECAI-B3 .75-1.6CR015-4EC	.750	1.6250	1.6250	.0150	.750	4.000	3
ECAI-B3 .75-1.6CR03-4EC	.750	1.6250	1.6250	.0300	.750	4.000	3
ECAI-B3 .75-1.6CR06-4EC	.750	1.6250	1.6250	.0600	.750	4.000	3
ECAI-B3 .75-1.6CR09-4EC	.750	1.6250	1.6250	.0900	.750	4.000	3
ECAI-B3 .75-1.6CR125-4EC	.750	1.6250	1.6250	.1250	.750	4.000	3
ECAI-B3 .75-2.3CR0-5EC	.750	2.2500	2.2500	0	.750	5.000	3
ECAI-B3 .75-2.3CR015-5EC	.750	2.2500	2.2500	.0150	.750	5.000	3
ECAI-B3 .75-2.3CR03-5EC	.750	2.2500	2.2500	.0300	.750	5.000	3

<sup>(1)</sup> Number of flutes

**ECAI-B3-EC** continued

DLC Coated 3 Flute Endmills for Machining  
Aluminum and Other Non-Ferrous Materials

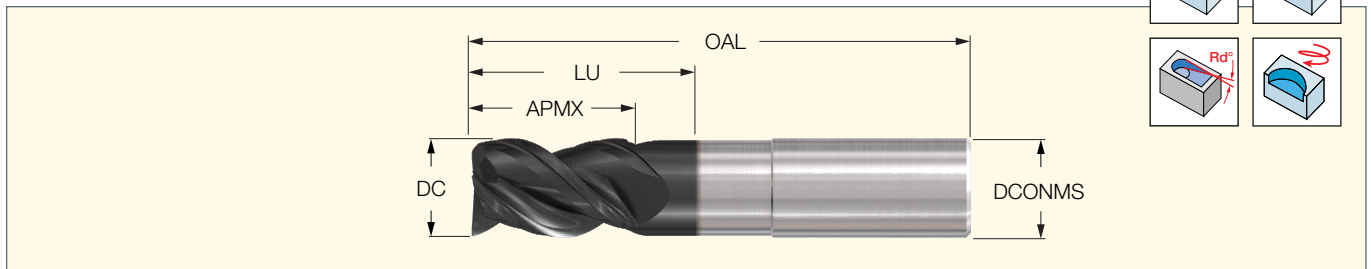
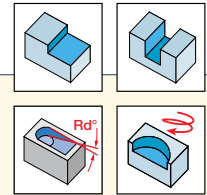


Designation	DC	APMX	LU	RE	DCONMS	OAL	NOF <sup>(1)</sup>
ECAI-B3 .75-2.3CR06-5EC	.750	2.2500	2.2500	.0600	.750	5.000	3
ECAI-B3 .75-2.3CR09-5EC	.750	2.2500	2.2500	.0900	.750	5.000	3
ECAI-B3 .75-2.3CR125-5EC	.750	2.2500	2.2500	.1250	.750	5.000	3
ECAI-B3 .75-3CR0-6EC	.750	3.0000	3.0000	0	.750	6.000	3
ECAI-B3 .75-3CR015-6EC	.750	3.0000	3.0000	.0150	.750	6.000	3
ECAI-B3 .75-3CR03-6EC	.750	3.0000	3.0000	.0300	.750	6.000	3
ECAI-B3 .75-3CR06-6EC	.750	3.0000	3.0000	.0600	.750	6.000	3
ECAI-B3 .75-3CR09-6EC	.750	3.0000	3.0000	.0900	.750	6.000	3
ECAI-B3 .75-3CR125-6EC	.750	3.0000	3.0000	.1250	.750	6.000	3
ECAI-B3 .75-4CR0-7EC	.750	4.0000	4.0000	0	.750	7.000	3
ECAI-B3 .75-4CR015-7EC	.750	4.0000	4.0000	.0150	.750	7.000	3
ECAI-B3 .75-4CR03-7EC	.750	4.0000	4.0000	.0300	.750	7.000	3
ECAI-B3 .75-4CR06-7EC	.750	4.0000	4.0000	.0600	.750	7.000	3
ECAI-B3 .75-4CR09-7EC	.750	4.0000	4.0000	.0900	.750	7.000	3
ECAI-B3 .75-4CR125-7EC	.750	4.0000	4.0000	.1250	.750	7.000	3
ECAI-B3 1-1.5CR0-4EC	1.000	1.5000	1.5000	0	1.000	4.000	3
ECAI-B3 1-1.5CR015-4EC	1.000	1.5000	1.5000	.0150	1.000	4.000	3
ECAI-B3 1-1.5CR03-4EC	1.000	1.5000	1.5000	.0300	1.000	4.000	3
ECAI-B3 1-1.5CR06-4EC	1.000	1.5000	1.5000	.0600	1.000	4.000	3
ECAI-B3 1-1.5CR09-4EC	1.000	1.5000	1.5000	.0900	1.000	4.000	3
ECAI-B3 1-1.5CR125-4EC	1.000	1.5000	1.5000	.1250	1.000	4.000	3
ECAI-B3 1-1.5CR0-6EC	1.000	1.5000	1.5000	0	1.000	6.000	3
ECAI-B3 1-1.5CR015-6EC	1.000	1.5000	1.5000	.0150	1.000	6.000	3
ECAI-B3 1-1.5CR03-6EC	1.000	1.5000	1.5000	.0300	1.000	6.000	3
ECAI-B3 1-1.5CR06-6EC	1.000	1.5000	1.5000	.0600	1.000	6.000	3
ECAI-B3 1-1.5CR09-6EC	1.000	1.5000	1.5000	.0900	1.000	6.000	3
ECAI-B3 1-1.5CR125-6EC	1.000	1.5000	1.5000	.1250	1.000	6.000	3
ECAI-B3 1-1.5/3CR0-5EC	1.000	1.5000	3.0000	0	1.000	5.000	3
ECAI-B3 1-1.5/3CR015-5EC	1.000	1.5000	3.0000	.0150	1.000	5.000	3
ECAI-B3 1-1.5/3CR03-5EC	1.000	1.5000	3.0000	.0300	1.000	5.000	3
ECAI-B3 1-1.5/3CR06-5EC	1.000	1.5000	3.0000	.0600	1.000	5.000	3
ECAI-B3 1-1.5/3CR09-5EC	1.000	1.5000	3.0000	.0900	1.000	5.000	3
ECAI-B3 1-1.5/3CR125-5EC	1.000	1.5000	3.0000	.1250	1.000	5.000	3
ECAI-B3 1-1.5/4CR0-6EC	1.000	1.5000	4.0000	0	1.000	6.000	3
ECAI-B3 1-1.5/4CR015-6EC	1.000	1.5000	4.0000	.0150	1.000	6.000	3
ECAI-B3 1-1.5/4CR03-6EC	1.000	1.5000	4.0000	.0300	1.000	6.000	3
ECAI-B3 1-1.5/4CR06-6EC	1.000	1.5000	4.0000	.0600	1.000	6.000	3
ECAI-B3 1-1.5/4CR09-6EC	1.000	1.5000	4.0000	.0900	1.000	6.000	3
ECAI-B3 1-1.5/4CR125-6EC	1.000	1.5000	4.0000	.1250	1.000	6.000	3
ECAI-B3 1-1.5/5CR0-7EC	1.000	1.5000	5.0000	0	1.000	7.000	3
ECAI-B3 1-1.5/5CR03-7EC	1.000	1.5000	5.0000	.0300	1.000	7.000	3
ECAI-B3 1-1.5/5CR015-7EC	1.000	1.5000	5.0000	.0150	1.000	7.000	3
ECAI-B3 1-1.5/5CR06-7EC	1.000	1.5000	5.0000	.0600	1.000	7.000	3
ECAI-B3 1-1.5/5CR09-7EC	1.000	1.5000	5.0000	.0900	1.000	7.000	3
ECAI-B3 1-1.5/5CR125-7EC	1.000	1.5000	5.0000	.1250	1.000	7.000	3
ECAI-B3 1-2CR0-4.5EC	1.000	2.0000	2.0000	0	1.000	4.500	3
ECAI-B3 1-2CR03-4.5EC	1.000	2.0000	2.0000	.0300	1.000	4.500	3
ECAI-B3 1-2CR06-4.5EC	1.000	2.0000	2.0000	.0600	1.000	4.500	3
ECAI-B3 1-2CR09-4.5EC	1.000	2.0000	2.0000	.0900	1.000	4.500	3
ECAI-B3 1-2CR015-4.5EC	1.000	2.0000	2.0000	.0150	1.000	4.500	3
ECAI-B3 1-2CR125-4.5EC	1.000	2.0000	2.0000	.1250	1.000	4.500	3

<sup>(1)</sup> Number of flutes

**ECAI-B3-EC** continued

DLC Coated 3 Flute Endmills for Machining  
Aluminum and Other Non-Ferrous Materials



Designation	DC	APMX	LU	RE	DCONMS	OAL	NOF <sup>(1)</sup>
ECAI-B3 1-2.3CR0-5EC	1.000	2.2500	2.2500	0	1.000	5.000	3
ECAI-B3 1-2.3CR03-5EC	1.000	2.2500	2.2500	.0300	1.000	5.000	3
ECAI-B3 1-2.3CR015-5EC	1.000	2.2500	2.2500	.0150	1.000	5.000	3
ECAI-B3 1-2.3CR06-5EC	1.000	2.2500	2.2500	.0600	1.000	5.000	3
ECAI-B3 1-2.3CR09-5EC	1.000	2.2500	2.2500	.0900	1.000	5.000	3
ECAI-B3 1-2.3CR125-5EC	1.000	2.2500	2.2500	.1250	1.000	5.000	3
ECAI-B3 1-2.6CR0-6EC	1.000	2.6250	2.6250	0	1.000	6.000	3
ECAI-B3 1-2.6CR015-6EC	1.000	2.6250	2.6250	.0150	1.000	6.000	3
ECAI-B3 1-2.6CR03-6EC	1.000	2.6250	2.6250	.0300	1.000	6.000	3
ECAI-B3 1-2.6CR06-6EC	1.000	2.6250	2.6250	.0600	1.000	6.000	3
ECAI-B3 1-2.6CR09-6EC	1.000	2.6250	2.6250	.0900	1.000	6.000	3
ECAI-B3 1-2.6CR125-6EC	1.000	2.6250	2.6250	.1250	1.000	6.000	3
ECAI-B3 1-3CR0-6EC	1.000	3.0000	3.0000	0	1.000	6.000	3
ECAI-B3 1-3CR015-6EC	1.000	3.0000	3.0000	.0150	1.000	6.000	3
ECAI-B3 1-3CR03-6EC	1.000	3.0000	3.0000	.0300	1.000	6.000	3
ECAI-B3 1-3CR06-6EC	1.000	3.0000	3.0000	.0600	1.000	6.000	3
ECAI-B3 1-3CR09-6EC	1.000	3.0000	3.0000	.0900	1.000	6.000	3
ECAI-B3 1-3CR125-6EC	1.000	3.0000	3.0000	.1250	1.000	6.000	3
ECAI-B3 1-4CR0-7EC	1.000	4.0000	4.0000	0	1.000	7.000	3
ECAI-B3 1-4CR015-7EC	1.000	4.0000	4.0000	.0150	1.000	7.000	3
ECAI-B3 1-4CR03-7EC	1.000	4.0000	4.0000	.0300	1.000	7.000	3
ECAI-B3 1-4CR06-7EC	1.000	4.0000	4.0000	.0600	1.000	7.000	3
ECAI-B3 1-4CR09-7EC	1.000	4.0000	4.0000	.0900	1.000	7.000	3
ECAI-B3 1-4CR125-7EC	1.000	4.0000	4.0000	.1250	1.000	7.000	3
ECAI-B3 1.25-2CR0-4.5EC	1.250	2.0000	2.0000	0	1.250	4.500	3
ECAI-B3 1.25-2CR015-4.5EC	1.250	2.0000	2.0000	.0150	1.250	4.500	3
ECAI-B3 1.25-2CR03-4.5EC	1.250	2.0000	2.0000	.0300	1.250	4.500	3
ECAI-B3 1.25-2CR06-4.5EC	1.250	2.0000	2.0000	.0600	1.250	4.500	3
ECAI-B3 1.25-2CR09-4.5EC	1.250	2.0000	2.0000	.0900	1.250	4.500	3
ECAI-B3 1.25-2CR125-4.5EC	1.250	2.0000	2.0000	.1250	1.250	4.500	3
ECAI-B3 1.25-3CR0-6EC	1.250	3.0000	3.0000	0	1.250	6.000	3
ECAI-B3 1.25-3CR015-6EC	1.250	3.0000	3.0000	.0150	1.250	6.000	3
ECAI-B3 1.25-3CR03-6EC	1.250	3.0000	3.0000	.0300	1.250	6.000	3
ECAI-B3 1.25-3CR06-6EC	1.250	3.0000	3.0000	.0600	1.250	6.000	3
ECAI-B3 1.25-3CR09-6EC	1.250	3.0000	3.0000	.0900	1.250	6.000	3
ECAI-B3 1.25-3CR125-6EC	1.250	3.0000	3.0000	.1250	1.250	6.000	3

<sup>(1)</sup> Number of flutes

## Cutting Conditions

### Slotting

ISO	Material Group No.	Material	Condition	Cutting Speed Recommendations (Vc) SFM	Hardness HB	Feed (IPT) per Cutting Diameter (inch)										Axial Slotting
						1/8	3/16	1/4	5/16	3/8	7/16	1/2	5/8	3/4	1	ap max
N	21	Aluminum-wrought alloys	Not hardenable	1600-1800	60	.001	.001	.002	.002	.003	.003	.004	.004	.006	.008	.75-1.5xD
	22		Hardenable		100	.001	.001	.002	.002	.003	.003	.004	.004	.006	.008	.75-1.5xD
	23	Aluminum-cast alloys ≤12% Si	Not hardenable	2200	75	.001	.001	.001	.001	.002	.002	.002	.003	.003	.005	.75-1.5xD
	24		Hardenable		90	.001	.001	.001	.001	.002	.002	.002	.003	.003	.005	.75-1.5xD
	26	Copper alloys	Free cutting	450-650	110	.001	.001	.001	.001	.002	.002	.003	.004	.004	.005	.75-1.5xD
	27		Brass		90	.001	.001	.001	.001	.002	.002	.003	.004	.004	.005	.75-1.5xD
28	Electrolytic copper		100		.001	.001	.001	.001	.002	.002	.003	.004	.004	.005	.75-1.5xD	

### Roughing

ISO	Material Group No.	Material	Condition	Cutting Speed Recommendations (Vc) SFM	Hardness HB	Feed (IPT) per Cutting Diameter (inch)										Radial Profiling	
						1/8	3/16	1/4	5/16	3/8	7/16	1/2	5/8	3/4	1	ap max	ae max
N	21	Aluminum-wrought alloys	Not hardenable	1600-1800	60	.001	.001	.002	.002	.003	.003	.003	.004	.005	.007	1xD	.5xD
	22		Hardenable		100	.001	.001	.002	.002	.003	.003	.003	.004	.005	.007	1xD	.5xD
	23	Aluminum-cast alloys ≤12% Si	Not hardenable	2200	75	.001	.001	.001	.001	.001	.002	.002	.002	.003	.004	1xD	.5xD
	24		Hardenable		90	.001	.001	.001	.001	.001	.002	.002	.002	.003	.004	1xD	.5xD
	26	Copper alloys	Free cutting	450-650	110	.001	.001	.001	.001	.002	.002	.002	.003	.004	.005	1xD	.5xD
	27		Brass		90	.001	.001	.001	.001	.002	.002	.002	.003	.004	.005	1xD	.5xD
28	Electrolytic copper		100		.001	.001	.001	.001	.002	.002	.002	.003	.004	.005	1xD	.5xD	

### Semi-Finish and Finishing

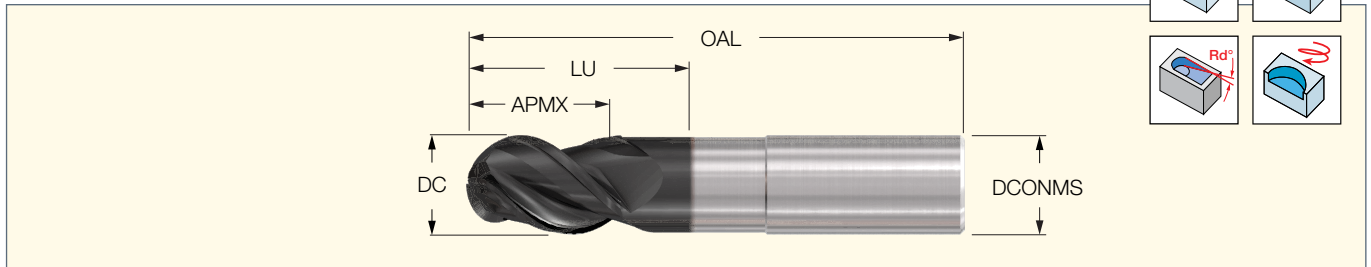
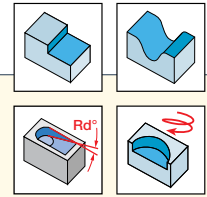
ISO	Material Group No.	Material	Condition	Cutting Speed Recommendations (Vc) SFM	Hardness HB	Feed (IPT) per Cutting Diameter (inch)										Radial Profiling	
						1/8	3/16	1/4	5/16	3/8	7/16	1/2	5/8	3/4	1	ap max	ae max
N	21	Aluminum-wrought alloys	Not hardenable	1600-1800	60	.001	.002	.002	.003	.004	.004	.005	.006	.008	.010	1-2xD	.05xD
	22		Hardenable		100	.001	.002	.002	.003	.004	.004	.005	.006	.008	.010	1-2xD	.05xD
	23	Aluminum-cast alloys ≤12% Si	Not hardenable	2200	75	.001	.001	.001	.002	.002	.002	.003	.003	.004	.006	1-2xD	.05xD
	24		Hardenable		90	.001	.001	.001	.002	.002	.002	.003	.003	.004	.006	1-2xD	.05xD
	26	Copper alloys	Free cutting	450-650	110	.001	.001	.002	.002	.003	.003	.003	.004	.005	.007	1-2xD	.05xD
	27		Brass		90	.001	.001	.002	.002	.003	.003	.003	.004	.005	.007	1-2xD	.05xD
28	Electrolytic copper		100		.001	.001	.002	.002	.003	.003	.003	.004	.005	.007	1-2xD	.05xD	





**EBAI-B3-EC**

DLC Coated 3 Flute Ball Nose Mills for Machining  
Aluminum and Other Non-Ferrous Materials

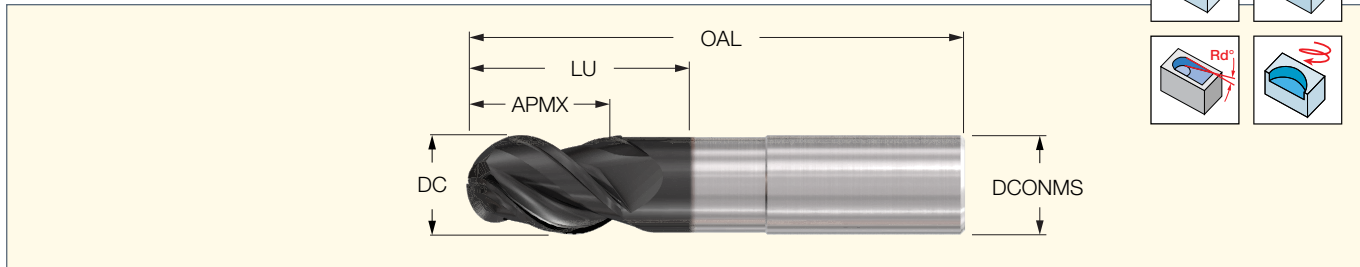
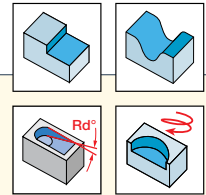


Designation	DC	APMX	LU	RE	DCONMS	OAL	NOF <sup>(1)</sup>
EBAI-B3 .125-.5C-1.5EC	.125	.5000	.5000	.0625	.125	1.500	3
EBAI-B3 .125-.25C-1.5EC	.125	.2500	.2500	.0625	.125	1.500	3
EBAI-B3 .187-.315C-2EC	.187	.3150	.3200	.0938	.187	2.000	3
EBAI-B3 .187-.562C-2EC	.187	.5620	.5700	.0938	.187	2.000	3
EBAI-B3 .25-.375C-2EC	.250	.3750	.3750	.1250	.250	2.000	3
EBAI-B3 .25-.5/1.25C-3EC	.250	.5000	1.2500	.1250	.250	3.000	3
EBAI-B3 .25-.5/2.125C-4EC	.250	.5000	2.1250	.1250	.250	4.000	3
EBAI-B3 .25-.75C-2.5EC	.250	.7500	.7500	.1250	.250	2.500	3
EBAI-B3 .25-1.C-3EC	.250	1.0000	1.0000	.1250	.250	3.000	3
EBAI-B3 .25-1.25C-4EC	.250	1.2500	1.2500	.1250	.250	4.000	3
EBAI-B3 .312-.5C-2EC	.312	.5000	.5000	.1563	.312	2.000	3
EBAI-B3 .312-.875C-2.5EC	.312	.8750	.8750	.1563	.312	2.500	3
EBAI-B3 .312-1.C-3EC	.312	1.0000	1.0000	.1563	.312	3.000	3
EBAI-B3 .312-1.25C-4EC	.312	1.2500	1.2500	.1563	.312	4.000	3
EBAI-B3 .437-1.C-2.75EC	.437	1.0000	1.0000	.2188	.437	2.750	3
EBAI-B3 .437-1.5C-4EC	.437	1.5000	1.5000	.2188	.437	4.000	3
EBAI-B3 .437-2.C-4EC	.437	2.0000	2.0000	.2188	.437	4.000	3
EBAI-B3 .5-.625C-2.5EC	.500	.6250	.6250	.2500	.500	2.500	3
EBAI-B3 .5-.875/1.37C-3EC	.500	.8750	1.3750	.2500	.500	3.000	3
EBAI-B3 .5-.875/2.12C-4EC	.500	.8750	2.1250	.2500	.500	4.000	3
EBAI-B3 .5-.875/3.12C-5EC	.500	.8750	3.1250	.2500	.500	5.000	3
EBAI-B3 .5-.875/4.125C-6EC	.500	.8750	4.1250	.2500	.500	6.000	3
EBAI-B3 .5-1.25C-3EC	.500	1.2500	1.2500	.2500	.500	3.000	3
EBAI-B3 .5-1.5C-4EC	.500	1.5000	1.5000	.2500	.500	4.000	3
EBAI-B3 .5-1.5C-6EC	.500	1.5000	1.5000	.2500	.500	6.000	3
EBAI-B3 .5-2.C-4EC	.500	2.0000	2.0000	.2500	.500	4.000	3
EBAI-B3 .5-2.5C-5EC	.500	2.5000	2.5000	.2500	.500	5.000	3
EBAI-B3 .5-3.125C-6EC	.500	3.1250	3.1250	.2500	.500	6.000	3
EBAI-B3 .625-.75C-3EC	.625	.7500	.7500	.3125	.625	3.000	3
EBAI-B3 .625-1./2.C-4EC	.625	1.0000	2.0000	.3125	.625	4.000	3
EBAI-B3 .625-1./3.C-5EC	.625	1.0000	3.0000	.3125	.625	5.000	3
EBAI-B3 .625-1./4.C-6EC	.625	1.0000	4.0000	.3125	.625	6.000	3
EBAI-B3 .625-1.25C-3.5EC	.625	1.2500	1.2500	.3125	.625	3.500	3
EBAI-B3 .625-1.5C-6EC	.625	1.5000	1.5000	.3125	.625	6.000	3
EBAI-B3 .625-2.C-4EC	.625	2.0000	2.0000	.3125	.625	4.000	3
EBAI-B3 .625-2.25C-5EC	.625	2.2500	2.2500	.3125	.625	5.000	3
EBAI-B3 .625-3.C-6EC	.625	3.0000	3.0000	.3125	.625	6.000	3
EBAI-B3 .75-1.C-3EC	.750	1.0000	1.0000	.3750	.750	3.000	3
EBAI-B3 .75-1.25/2.C-4EC	.750	1.2500	2.0000	.3750	.750	4.000	3
EBAI-B3 .75-1.25/3.C-5EC	.750	1.2500	3.0000	.3750	.750	5.000	3
EBAI-B3 .75-1.25/4.C-6EC	.750	1.2500	4.0000	.3750	.750	6.000	3
EBAI-B3 .75-1.5C-6EC	.750	1.5000	1.5000	.3750	.750	6.000	3
EBAI-B3 .75-1.625C-4EC	.750	1.6250	1.6250	.3750	.750	4.000	3
EBAI-B3 .75-2.25C-5EC	.750	2.2500	2.2500	.3750	.750	5.000	3
EBAI-B3 .75-3.C-6EC	.750	3.0000	3.0000	.3750	.750	6.000	3
EBAI-B3 .75-4.C-7EC	.750	4.0000	4.0000	.3750	.750	7.000	3
EBAI-B3 1.-1.5C-4EC	1.000	1.5000	1.5000	.5000	1.000	4.000	3
EBAI-B3 1.-1.5C-6EC	1.000	1.5000	1.5000	.5000	1.000	6.000	3
EBAI-B3 1.-1.5/3.C-5EC	1.000	1.5000	3.0000	.5000	1.000	5.000	3
EBAI-B3 1.-1.5/4.C-6EC	1.000	1.5000	4.0000	.5000	1.000	6.000	3

<sup>(1)</sup> Number of flutes

**EBAI-B3-EC**

DLC Coated 3 Flute Ball Nose Mills for Machining  
Aluminum and Other Non-Ferrous Materials



Designation	DC	APMX	LU	RE	DCONMS	OAL	NOF <sup>(1)</sup>
<b>EBAI-B3 1.-1.5/C-7EC</b>	1.000	1.5000	50	.5000	1.000	7.000	3
<b>EBAI-B3 1.-2.C-4.5EC</b>	1.000	2.0000	2.0000	.5000	1.000	4.500	3
<b>EBAI-B3 1.-2.25C-5EC</b>	1.000	2.2500	2.2500	.5000	1.000	5.000	3
<b>EBAI-B3 1.-2.625C-6EC</b>	1.000	2.6250	2.6250	.5000	1.000	6.000	3
<b>EBAI-B3 1.-3.C-6EC</b>	1.000	3.0000	3.0000	.5000	1.000	6.000	3
<b>EBAI-B3 1.-4.C-7EC</b>	1.000	4.0000	4.0000	.5000	1.000	7.000	3
<b>EBAI-B3 1.25-2.C-4.5EC</b>	1.250	2.0000	2.0000	.6250	1.250	4.500	3
<b>EBAI-B3 1.25-3.C-6EC</b>	1.250	3.0000	3.0000	.6250	1.250	6.000	3

<sup>(1)</sup> Number of flutes

**Cutting Conditions**

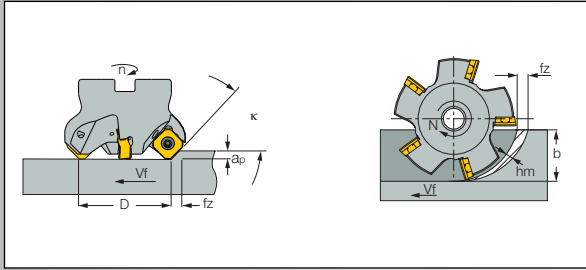
**Roughing**

ISO	Material Group No.	Material	Condition	Cutting Speed Recommendations (V <sub>c</sub> ) SFM	Hardness HB	Feed (IPT) per Cutting Diameter (inch)										Radial Profiling		
						1/8	3/16	1/4	5/16	3/8	7/16	1/2	5/8	3/4	1	a <sub>p</sub> max	a <sub>e</sub> max	
<b>N</b>	21	Aluminum-wrought alloys	Not hardenable	1600-1800	60	.001	.001	.002	.002	.003	.003	.003	.004	.005	.007	1xD	.5xD	
	22		Hardenable		100	.001	.001	.002	.002	.003	.003	.003	.004	.005	.007	1xD	.5xD	
	23	Aluminum-cast alloys ≤12% Si	Not hardenable	2200	75	.001	.001	.001	.001	.001	.002	.002	.002	.003	.004	1xD	.5xD	
	24		Hardenable		90	.001	.001	.001	.001	.001	.002	.002	.002	.003	.004	1xD	.5xD	
	26	Copper alloys	Free cutting	450-650	110	.001	.001	.001	.001	.001	.002	.002	.002	.003	.004	.005	1xD	.5xD
	27		Brass		90	.001	.001	.001	.001	.001	.002	.002	.002	.003	.004	.005	1xD	.5xD
28	Electrolytic copper		100		.001	.001	.001	.001	.001	.002	.002	.002	.003	.004	.005	1xD	.5xD	

**Semi-Finish and Finishing**

ISO	Material Group No.	Material	Condition	Cutting Speed Recommendations (V <sub>c</sub> ) SFM	Hardness HB	Feed (IPT) per Cutting Diameter (inch)										Radial Profiling	
						1/8	3/16	1/4	5/16	3/8	7/16	1/2	5/8	3/4	1	a <sub>p</sub> max	a <sub>e</sub> max
<b>N</b>	21	Aluminum-wrought alloys	Not hardenable	1600-1800	60	.001	.002	.002	.003	.004	.004	.005	.006	.008	.010	1-2xD	.05xD
	22		Hardenable		100	.001	.002	.002	.003	.004	.004	.005	.006	.008	.010	1-2xD	.05xD
	23	Aluminum-cast alloys ≤12% Si	Not hardenable	2200	75	.001	.001	.001	.002	.002	.002	.003	.003	.004	.006	1-2xD	.05xD
	24		Hardenable		90	.001	.001	.001	.002	.002	.002	.003	.003	.004	.006	1-2xD	.05xD
	26	Copper alloys	Free cutting	450-650	110	.001	.001	.002	.002	.003	.003	.003	.004	.005	.007	1-2xD	.05xD
	27		Brass		90	.001	.001	.002	.002	.003	.003	.003	.004	.005	.007	1-2xD	.05xD
28	Electrolytic copper		100		.001	.001	.002	.002	.003	.003	.003	.004	.005	.007	1-2xD	.05xD	

# Milling Calculations



## Calculations

Cutting speed	$V_c = \frac{\pi \cdot D \cdot N}{12}$ [SFM]
Spindle speed	$N = \frac{V_c \cdot 12}{\pi \cdot D}$ [RPM]
Table speed	$V_f = f_z \cdot Z \cdot N$ [IPM]
Feed per tooth	$f_z = \frac{V_f}{N \cdot Z_{eff}}$ [IPT]
Feed per revolution	$f_N = f_z \cdot Z$ [IPR]
Metal removal rate	$Q = a_p \cdot b \cdot V_f$ [in <sup>3</sup> /min]
Machining time	$T_h = \frac{L_w}{V_f}$ [min]
Specific cutting force	$K_c = K_{c1} \cdot h_m^{-mc}$
Average chip thickness in shoulder milling for b/D ≤ 0.1	$h_m \approx f_z \cdot \sqrt{\frac{b}{D}}$ [in]
Average chip thickness in shoulder milling for b/D > 0.1	$h_m = \frac{(\sin k \cdot 180 \cdot b \cdot f_z)}{\pi \cdot D \cdot \arcsin(b/D)}$ [in]
Machining power	$P = \frac{(558 \cdot a_p \cdot b \cdot V_f \cdot K_c)}{45 \cdot 10^7 \cdot \eta}$ [HP]

<b>Vc</b>	[SFM]	Cutting speed
<b>D</b>	[in]	Tool diameter
<b>N</b>	[RPM]	Spindle speed
<b>Vf</b>	[IPM]	Feed speed
<b>fz</b>	[IPT]	Feed per tooth
<b>Z</b>		Number of teeth
<b>fN</b>	[IPR]	Feed per revolution
<b>Q</b>	[in <sup>3</sup> /min]	Metal removal rate
<b>ap</b>	[inch]	Depth of cut
<b>b</b>	[inch]	Width of cut
<b>Th</b>	[min]	Machining time
<b>Lw</b>	[inch]	Machining length
<b>Kc</b>	[PSI]	Specific cutting force
<b>Kc1</b>	[PSI]	Specific cutting force for 1 mm <sup>2</sup> chip section
<b>hm</b>	[inch]	Average chip thickness
<b>mc</b>		Chip thickness factor
<b>k</b>	[degrees]	Cutting edge angle
<b>P</b>	[HP]	Machining power
<b>η</b>		Machine efficiency
<b>P=</b>	<b>Pc + Pm</b>	
<b>P</b>	-	Total Machining Power
<b>Pc</b>	-	Net Power = Cutting Power
<b>Pm</b>	-	Motor Power (idle cutting)

## Values for Motor Power Pm

Max. Machine Power [HP]	Motor Power Pm [HP]
7.5	0.5
10.0	0.5-1.0
15.0	1.5
20.0	2.0
24.0	3.0
29.5	3.4

Motor Power Pm has a value of approximately 7 to 12% of the Maximum Machine Power



# **FLASH***SOLID*

*ECO SOLID LINE*

