

Reliable Milling...

Lowest production costs

For general purpose use in materials
up to 1600N/mm²

R30 geometry

TiAlN coated and uncoated available

Made from submicron grade carbide – VHM

The Tecline carbide endmill range is Sutton Tools' standard range for general high speed milling applications. They are a low cost tool solution with reliable performance and precision.

CARBIDE ENDMILLS

TECLINE

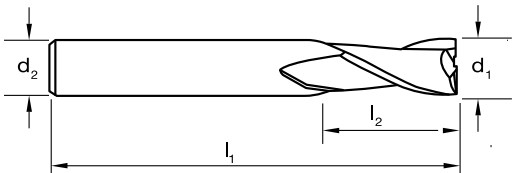
suttontools
world class cutting tools

Endmills Carbide, 2 Flute, R30 N, Regular

suttontools

TECLINE

- For precision milling of slots & cavities
- Suitable for materials up to 1600 N/mm²
- TiAlN for longer tool life



Size Ref.	d ₁	l ₁	l ₂	d ₂	z	Item #	Item #
0100	1.0	38	4	3	2	E600 0100	E603 0100
0150	1.5	38	4.5	3	2	E600 0150	E603 0150
0200	2.0	38	6	3	2	E600 0200	E603 0200
0250	2.5	38	9.5	3	2	E600 0250	E603 0250
0300	3.0	38	12	3	2	E600 0300	E603 0300
0350	3.5	50	12	4	2	E600 0350	E603 0350
0400	4.0	50	14	4	2	E600 0400	E603 0400
0450	4.5	50	16	6	2	E600 0450	E603 0450
0500	5.0	50	16	6	2	E600 0500	E603 0500
0600	6.0	50	19	6	2	E600 0600	E603 0600
0700	7.0	63	19	8	2	E600 0700	E603 0700
0800	8.0	63	20	8	2	E600 0800	E603 0800
0900	9.0	75	22	10	2	E600 0900	E603 0900
1000	10.0	75	22	10	2	E600 1000	E603 1000
1100	11.0	75	25	12	2	E600 1100	E603 1100
1200	12.0	75	25	12	2	E600 1200	E603 1200
1400	14.0	89	32	14	2	E600 1400	E603 1400
1600	16.0	89	32	16	2	E600 1600	E603 1600
1800	18.0	100	38	18	2	E600 1800	E603 1800
2000	20.0	100	38	20	2	E600 2000	E603 2000
2500	25.0	100	38	25	2	E600 2500	E603 2500



Catalogue Code	E600	E603
Discount Group	B0212	B0214
Material	VHM	VHM
Surface Finish	Brt	TiAlN
Sutton Designation	N	N
Geometry	R30	R30
Shank Form (DIN 6535)	HA	HA
Shank Tolerance	h6	h6
Type of Cut:	•	•
Slotting		
Finishing		
Universal		
Roughing		
Profiling		
ap × Ø	0.75	0.75
ae × Ø	1.0	1.0

ISO VDI Material Group

ISO	VDI	Material Group
P	A	Steel
M	R	Stainless Steel
K	F	Cast Iron
N	N	Non-Ferrous Metals, Aluminiums & Coppers
S	S	Titaniums & Super Alloys
H	H	Hard Materials (≥ 45 HRC)

ISO	VDI ³²³	Material	Condition	HB	N/mm ²	Vc	Feed #	Vc	Feed #	
P	1	Steel - Non-alloy, cast & free cutting	~ 0.15 %C	A	125	440	100	7	144	8
	2		~ 0.45 %C	A	190	640	100	7	144	8
	3			QT	250	840	56	7	80	8
	4	Steel - Low alloy & cast < 5% of alloying elements	~ 0.75 %C	A	270	910	56	7	80	8
	5			QT	300	1010	-	-	80	8
	6			A	180	610	100	7	144	8
	7			QT	275	930	56	7	80	8
	8		QT	300	1010	-	-	80	8	
	9		QT	350	1180	-	-	64	8	
	10	Steel - High alloy, cast & tool	A	200	680	56	7	80	8	
	11		HT	325	1100	-	-	64	8	
M	14.1	Stainless Steel	Austenitic	AH	180	610	52	7	72	8
	14.2		Duplex		250	840	52	7	-	-
K	15	Cast Iron - Grey (GG)	Ferritic / Pearlitic		180	610	80	7	112	8
	16		Pearlitic		260	880	80	7	112	8
	17	Cast Iron - Nodular (GGG)	Ferritic		160	570	80	7	112	8
	18		Pearlitic		250	840	80	7	112	8
	19	Cast Iron - Malleable	Ferritic		130	460	56	7	80	8
20	Pearlitic			230	780	56	7	80	8	

Condition: A (Annealed), AH (Age Hardened), C (Cast), HT (Hardened & Tempered), QT (Quenched & Tempered)
Bold = Optimal | Regular = Effective

METRIC ENDMILLS (mm size)

$$n = \frac{v_c \times 1000}{\phi \times \pi} \approx \frac{v_c}{\phi} \times 318$$

$$v_c = \frac{n \times \phi \times \pi}{1000} \approx \frac{n \times \phi}{318}$$

$$f_z = \frac{V_f}{z \times n} \quad v_f = f_z \times z \times n$$

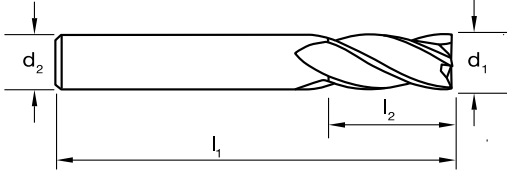
$$Q = \frac{a_p \times a_e \times V_f}{1000}$$

Endmills Carbide, 4 Flute, R30 N, Regular

suttontools

TECLINE

- For precision finish milling applications
- Suitable for materials up to 1600 N/mm²
- TiAlN for longer tool life



Size Ref.	d ₁	l ₁	l ₂	d ₂	z
0100	1.0	38	4	3	4
0150	1.5	38	4.5	3	4
0200	2.0	38	6	3	4
0250	2.5	38	9.5	3	4
0300	3.0	38	12	3	4
0350	3.5	50	12	4	4
0400	4.0	50	14	4	4
0450	4.5	50	16	6	4
0500	5.0	50	16	6	4
0600	6.0	50	19	6	4
0700	7.0	63	19	8	4
0800	8.0	63	20	8	4
0900	9.0	75	22	10	4
1000	10.0	75	22	10	4
1100	11.0	75	25	12	4
1200	12.0	75	25	12	4
1400	14.0	89	32	14	4
1600	16.0	89	32	16	4
1800	18.0	100	38	18	4
2000	20.0	100	38	20	4
2500	25.0	100	38	25	4



Catalogue Code	E601	E604
Discount Group	B0212	B0214
Material	VHM	VHM
Surface Finish	Brt	TiAlN
Sutton Designation	N	N
Geometry	R30	R30
Shank Form (DIN 6535)	HA	HA
Shank Tolerance	h6	h6

Item #	Item #
E601 0100	E604 0100
E601 0150	E604 0150
E601 0200	E604 0200
E601 0250	E604 0250
E601 0300	E604 0300
E601 0350	E604 0350
E601 0400	E604 0400
E601 0450	E604 0450
E601 0500	E604 0500
E601 0600	E604 0600
E601 0700	E604 0700
E601 0800	E604 0800
E601 0900	E604 0900
E601 1000	E604 1000
E601 1100	E604 1100
E601 1200	E604 1200
E601 1400	E604 1400
E601 1600	E604 1600
E601 1800	E604 1800
E601 2000	E604 2000
E601 2500	E604 2500

Type of Cut: **Slotting**
Finishing
Universal
Roughing
Profiling

ap x Ø	1.75	1.75	1.75	1.75
ae x Ø	0.2	0.2	0.2	0.2
•				
•				
•				

ISO VDI	Material Group
P A	Steel
M R	Stainless Steel
K F	Cast Iron
N N	Non-Ferrous Metals, Aluminiums & Coppers
S S	Titaniums & Super Alloys
H H	Hard Materials (≥ 45 HRC)

ISO	VDI ³²³	Material	Condition	HB	N/mm ²	Vc	Feed #	Vc	Feed #			
P	1	Steel - Non-alloy, cast & free cutting	~ 0.15 %C	A	125	440	100	7	10	144	8	11
	2		~ 0.45 %C	A	190	640	100	7	10	144	8	11
	3		~ 0.75 %C	QT	250	840	56	7	10	80	8	11
	4	Steel - Low alloy & cast < 5% of alloying elements	A	270	910	56	7	10	80	8	11	
	5		QT	300	1010	-	-	-	80	8	11	
	6		A	180	610	100	7	10	144	8	11	
	7		QT	275	930	56	7	10	80	8	11	
	8	QT	300	1010	-	-	-	80	8	11		
	9	QT	350	1180	-	-	-	64	8	11		
	10	Steel - High alloy, cast & tool	A	200	680	56	7	10	80	8	11	
	11		HT	325	1100	-	-	-	64	8	11	
14.1	Stainless Steel		Austenitic	AH	180	610	52	7	10	72	8	11
14.2		Duplex		250	840	52	7	10	72	8	11	
K	15	Cast Iron - Grey (GG)	Ferritic / Pearlitic		180	610	80	7	10	112	8	11
	16		Pearlitic		260	880	80	7	10	112	8	11
	17	Cast Iron - Nodular (GGG)	Ferritic		160	570	80	7	10	112	8	11
	18		Pearlitic		250	840	80	7	10	112	8	11
	19	Cast Iron - Malleable	Ferritic		130	460	56	7	10	80	8	11
20	Pearlitic			230	780	56	7	10	80	8	11	

Condition: **A** (Annealed), **AH** (Age Hardened), **C** (Cast), **HT** (Hardened & Tempered), **QT** (Quenched & Tempered)
Bold = Optimal | Regular = Effective

METRIC ENDMILLS (mm size)

$$n = \frac{v_c \times 1000}{\phi \times \pi} \approx \frac{v_c}{\phi} \times 318$$

$$v_c = \frac{n \times \phi \times \pi}{1000} \approx \frac{n \times \phi}{318}$$

$$f_z = \frac{V_f}{z \times n} \quad v_f = f_z \times z \times n$$

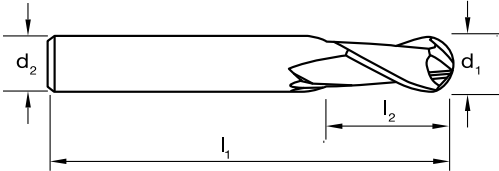
$$Q = \frac{a_e \times a_p \times V_f}{1000}$$

Endmills Carbide, Ballnose, 2 Flute, R30 N, Regular

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Size Ref.	d ₁	l ₁	l ₂	d ₂	z	Item #	Item #
0100	1.0	38	4	3	2	E602 0100	E605 0100
0150	1.5	38	4.5	3	2	E602 0150	E605 0150
0200	2.0	38	6	3	2	E602 0200	E605 0200
0250	2.5	38	9.5	3	2	E602 0250	E605 0250
0300	3.0	38	12	3	2	E602 0300	E605 0300
0400	4.0	50	14	4	2	E602 0400	E605 0400
0500	5.0	50	16	6	2	E602 0500	E605 0500
0600	6.0	50	19	6	2	E602 0600	E605 0600
0800	8.0	63	20	8	2	E602 0800	E605 0800



Catalogue Code	E602	E605
Discount Group	B0212	B0214
Material	VHM	VHM
Surface Finish	Brt	TiAlN
Sutton Designation	N	N
Geometry	R30	R30
Shank Form (DIN 6535)	HA	HA
Shank Tolerance	h6	h6

Type of Cut: **Slotting**
Finishing
Universal
Roughing
Profiling

ap × Ø	0.025	0.025
ae × Ø	0.05	0.05

ISO VDI	Material Group
P A	Steel
M R	Stainless Steel
K F	Cast Iron
N N	Non-Ferrous Metals, Aluminiums & Coppers
S S	Titaniums & Super Alloys
H H	Hard Materials (≥ 45 HRC)

ISO	VDI ³³²³	Material	Condition	HB	N/mm ²	Vc	Feed #	Vc	Feed #	
P	1	Steel - Non-alloy, cast & free cutting	~ 0.15 %C	A	125	440	80-140	19	110-200	20
	2		~ 0.45 %C	A	190	640	80-140	19	110-200	20
	3		~ 0.75 %C	QT	250	840	45-100	19	60-145	20
	4	Steel - Low alloy & cast < 5% of alloying elements	A	270	910	45-100	19	60-145	20	
	5		QT	300	1010	-	-	60-145	20	
	6		A	180	610	80-140	19	110-200	20	
	7		QT	275	930	45-100	19	60-145	20	
	8	QT	300	1010	-	-	60-145	20		
	9	QT	350	1180	-	-	45-95	20		
	10	Steel - High alloy, cast & tool	A	200	680	45-100	19	60-145	20	
	11		HT	325	1100	-	-	45-95	20	
M	14.1	Stainless Steel	Austenitic	AH	180	610	40-60	19	55-90	20
	14.2		Duplex		250	840	40-60	19	55-90	20
K	15	Cast Iron - Grey (GG)	Ferritic / Pearlitic		180	610	70-100	19	95-145	20
	16		Pearlitic		260	880	70-100	19	95-145	20
	17	Cast Iron - Nodular (GGG)	Ferritic		160	570	70-100	19	95-145	20
	18		Pearlitic		250	840	70-100	19	95-145	20
	19	Cast Iron - Malleable	Ferritic		130	460	55-80	19	80-110	20
20	Pearlitic			230	780	55-80	19	80-110	20	

Condition: A (Annealed), AH (Age Hardened), C (Cast), HT (Hardened & Tempered), QT (Quenched & Tempered)
Bold = Optimal | Regular = Effective

METRIC ENDMILLS (mm size)

$$n = \frac{v_c \times 1000}{\phi \times \pi} \approx \frac{v_c}{\phi} \times 318$$

$$v_c = \frac{n \times \phi \times \pi}{1000} \approx \frac{n \times \phi}{318}$$

$$f_z = \frac{V_f}{z \times n} \quad V_f = f_z \times z \times n$$

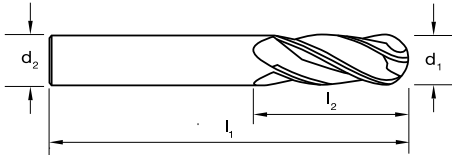
$$Q = \frac{a_e \times a_p \times V_f}{1000}$$

Endmills Carbide, Ballnose, 4 Flute, R30 N, Regular

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- For profile & contour milling applications
- Suitable for materials up to 1600 N/mm²
- TiAIN for longer tool life



Size Ref.	d ₁	l ₁	l ₂	d ₂	z	Item #
0100	1.0	38	4	3	4	E607 0100
0150	1.5	38	4.5	3	4	E607 0150
0200	2.0	38	6	3	4	E607 0200
0250	2.5	38	9.5	3	4	E607 0250
0300	3.0	38	12	3	4	E607 0300
0350	3.5	50	12	4	4	E607 0350
0400	4.0	50	14	4	4	E607 0400
0450	4.5	50	16	6	4	E607 0450
0500	5.0	50	16	6	4	E607 0500
0600	6.0	50	19	6	4	E607 0600
0700	7.0	63	19	8	4	•
0800	8.0	63	20	8	4	E607 0800
0900	9.0	75	22	10	4	•
1000	10.0	75	22	10	4	E607 1000
1100	11.0	75	25	12	4	E607 1100
1200	12.0	75	25	12	4	E607 1200
1400	14.0	89	32	14	4	E607 1400
1600	16.0	89	32	16	4	E607 1600
1800	18.0	100	38	18	4	E607 1800
2000	20.0	100	38	20	4	E607 2000
2500	25.0	100	38	25	4	E607 2500

Type of Cut: **Slotting**
Finishing
Universal
Roughing
Profiling
 ap × Ø **0.025**
 ae × Ø **0.05**

ISO VDI	Material Group
P	A Steel
M	R Stainless Steel
K	F Cast Iron
N	N Non-Ferrous Metals, Aluminiums & Coppers
S	S Titaniums & Super Alloys
H	H Hard Materials (≥ 45 HRC)

METRIC ENDMILLS (mm size)

$$n = \frac{v_c \times 1000}{\pi \times \phi} \approx \frac{v_c}{\phi} \times 318$$

$$v_c = \frac{n \times \phi \times \pi}{1000} \approx \frac{n \times \phi}{318}$$

$$f_z = \frac{V_f}{z \times n} \quad v_f = f_z \times z \times n$$

$$Q = \frac{a_p \times a_e \times V_f}{1000}$$

ISO	VDI [^] ₃₃₂₃	Material	Condition	HB	N/mm ²	Vc	Feed #	
P	1	Steel - Non-alloy, cast & free cutting	~ 0.15 %C	A	125	440	140-250	16
	2		~ 0.45 %C	A	190	640	140-250	16
	3			QT	250	840	75-180	16
	4			A	270	910	75-180	16
	5			QT	300	1010	75-180	16
	6		Steel - Low alloy & cast	A	180	610	140-250	16
	7		< 5% of alloying elements	QT	275	930	75-180	16
	8			QT	300	1010	75-180	16
	9			QT	350	1180	60-120	16
	10		Steel - High alloy, cast & tool	A	200	680	75-180	16
	11			HT	325	1100	60-120	16
12		Steel - Corrosion resistant & cast	Ferritic / Martensitic	A	200	680	-	-
13			Martensitic	QT	240	810	-	-
M	14.1	Stainless Steel	Austenitic	AH	180	610	70-110	16
	14.2		Duplex		250	840	70-110	16
	14.3		Precipitation Hardening		250	840	-	-
K	15	Cast Iron - Grey (GG)	Ferritic / Pearlitic		180	610	120-180	16
	16		Pearlitic		260	880	120-180	16
	17	Cast Iron - Nodular (GGG)	Ferritic		160	570	120-180	16
	18		Pearlitic		250	840	120-180	16
	19	Cast Iron - Malleable	Ferritic		130	460	100-140	16
	20		Pearlitic		230	780	100-140	16
N	21	Aluminum & Magnesium - wrought alloy	Non Heat Treatable		60	210	150-450	16
	22		Heat Treatable	AH	100	360	150-450	16
	23	Aluminum & Magnesium - cast alloy ≤12% Si	Non Heat Treatable		75	270	150-450	16
	24		Heat Treatable	AH	90	320	150-450	16
	25	Al & Mg - cast alloy >12% Si	Non Heat Treatable		130	460	150-450	16
	26	Copper & Cu alloys (Brass/Bronze)	Free cutting, Pb > 1%		110	390	120-350	16
	27		Brass (CuZn, CuSnZn)		90	320	120-350	16
	28		Bronze (CuSn)		100	360	120-350	16

Condition: **A** (Annealed), **AH** (Age Hardened), **C** (Cast), **HT** (Hardened & Tempered), **QT** (Quenched & Tempered)
Bold = Optimal | Regular = Effective

• Available on request as special manufacture. Subject to lead time.

www.sutton.com.au



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