



01245 260414 - 250910



sales@smarttoolsuk.com



www.smarttoolsuk.com

LOW
Price
HIGH
Performance



ALU- SERIES



LOW Price

HIGH Performance
G-TAC
coating

ALU-SERIES

End Mills for Aluminum

SERIES 2ALE 3ALE 3ALR 3ALC 3ARE 3ARC 3ARO

*Applied fine WC grade for excellent surface finish.
With RTAC coating, the tool life improved more than two times
over conventional uncoated endmills.
Various flute length design for covering wide range application.
Minimize built up edge by double edge and deep pocket design.
Minimize fracturing by high TRS fine(0.5) WC grade.*

**Endmills for Aluminum, AL alloy, non-ferrous
and non-metallic materials.**

In 2015 Smart Tools UK Ltd and JJ Tools undertook a strategic alliance, resulting in Smart Tools securing sole distribution rights for the UK.

Joint collaboration with customers is key to our success, by gaining a clear understanding of your needs; we ensure you are kept informed of the latest developments in tooling technology that are critical to staying ahead of the curve.

Call one of the team today on 01245 260414 to discuss how Smart Tools can improve your tooling solutions while reducing costs and ensure a robust supply chain.



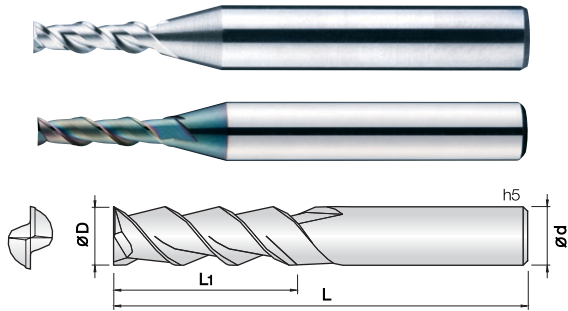
01245 260414 - 250910



sales@smarttoolsuk.com



www.smarttoolsuk.com



Endmills for Aluminum, AL alloy, non-ferrous and non-metallic materials.

- Applied fine WC grade for excellent surface finish.
- Various flute length design for covering wide range application.
- Tetrabond TAC coating provides excellent work surface finish by high hardness and low friction.
- Minimize built up edge by double edge and deep pocket design.

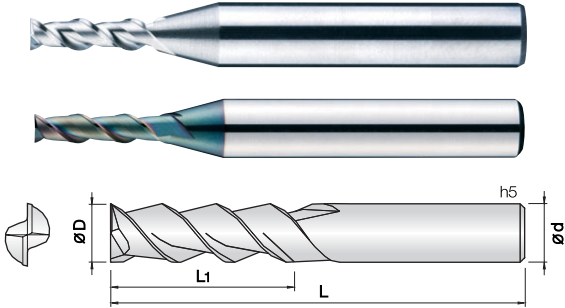


D Size	D Tolerance
ø0.5 ~ 20	+0 ~ -0.01mm

: mm

Order Number		Diameter D	Length of cut L1	Overall Length L	Shank Dia d		
Non coated	Coated					Non coated	Coated
2ALE 005 005 S04	New 2ALEC 005 005 S04	0.5	0.5	38	4		
2ALE 005 010 S04	New 2ALEC 005 010 S04	0.5	1	38	4		
2ALE 005 015 S04	New 2ALEC 005 015 S04	0.5	1.5	38	4		
2ALE 005 020 S04	New 2ALEC 005 020 S04	0.5	2	38	4		
2ALE 006 006 S04	New 2ALEC 006 006 S04	0.6	0.6	38	4		
2ALE 006 012 S04	New 2ALEC 006 012 S04	0.6	1.2	38	4		
2ALE 006 020 S04	New 2ALEC 006 020 S04	0.6	2	38	4		
2ALE 007 007 S04	New 2ALEC 007 007 S04	0.7	0.7	38	4		
2ALE 007 014 S04	New 2ALEC 007 014 S04	0.7	1.4	38	4		
2ALE 007 020 S04	New 2ALEC 007 020 S04	0.7	2	38	4		
2ALE 008 008 S04	New 2ALEC 008 008 S04	0.8	0.8	38	4		
2ALE 008 016 S04	New 2ALEC 008 016 S04	0.8	1.6	38	4		
2ALE 008 020 S04	New 2ALEC 008 020 S04	0.8	2	38	4		
2ALE 009 009 S04	New 2ALEC 009 009 S04	0.9	0.9	38	4		
2ALE 009 018 S04	New 2ALEC 009 018 S04	0.9	1.8	38	4		
2ALE 009 025 S04	New 2ALEC 009 025 S04	0.9	2.5	38	4		
2ALE 010 015 S04	New 2ALEC 010 015 S04	1	1.5	40	4		
2ALE 010 015 S06	New 2ALEC 010 015 S06	1	1.5	40	6		
2ALE 010 025 S04	New 2ALEC 010 025 S04	1	2.5	40	4		
2ALE 010 025 S06	New 2ALEC 010 025 S06	1	2.5	40	6		
2ALE 010 035 S04	New 2ALEC 010 035 S04	1	3.5	40	4		
2ALE 010 035 S06	New 2ALEC 010 035 S06	1	3.5	40	6		
2ALE 010 050 S06	New 2ALEC 010 050 S06	1	5	45	6		
2ALE 010 060 S06	New 2ALEC 010 060 S06	1	6	45	6		
New 2ALE 010 080 S06	New 2ALEC 010 080 S06	1	8	45	6		
New 2ALE 010 100 S06	New 2ALEC 010 100 S06	1	10	45	6		
2ALE 012 030 S06	New 2ALEC 012 030 S06	1.2	3	40	6		
2ALE 012 040 S06	New 2ALEC 012 040 S06	1.2	4	40	6		
2ALE 012 060 S06	New 2ALEC 012 060 S06	1.2	6	40	6		
2ALE 015 040 S06	New 2ALEC 015 040 S06	1.5	4	40	6		
2ALE 015 060 S06	New 2ALEC 015 060 S06	1.5	6	40	6		
2ALE 015 080 S06	New 2ALEC 015 080 S06	1.5	8	45	6		
2ALE 015 100 S06	New 2ALEC 015 100 S06	1.5	10	50	6		
2ALE 015 120 S06	New 2ALEC 015 120 S06	1.5	12	50	6		
New 2ALE 015 150 S06	New 2ALEC 015 150 S06	1.5	15	55	6		
2ALE 020 050 S06	New 2ALEC 020 050 S06	2	5	45	6		
2ALE 020 070 S06	New 2ALEC 020 070 S06	2	7	45	6		
2ALE 020 100 S06	New 2ALEC 020 100 S06	2	10	50	6		
2ALE 020 120 S06	New 2ALEC 020 120 S06	2	12	50	6		
2ALE 020 140 S06	New 2ALEC 020 140 S06	2	14	50	6		
2ALE 020 160 S06	New 2ALEC 020 160 S06	2	16	60	6		
2ALE 025 080 S06	New 2ALEC 025 080 S06	2.5	8	45	6		
2ALE 025 120 S06	New 2ALEC 025 120 S06	2.5	12	50	6		
2ALE 025 150 S06	New 2ALEC 025 150 S06	2.5	15	60	6		
2ALE 030 080 S06	New 2ALEC 030 080 S06	3	8	45	6		
2ALE 030 100 S06	New 2ALEC 030 100 S06	3	10	45	6		
2ALE 030 120 S06	New 2ALEC 030 120 S06	3	12	50	6		
2ALE 030 150 S06	New 2ALEC 030 150 S06	3	15	50	6		





Endmills for Aluminum, AL alloy, non-ferrous and non-metallic materials.

- Applied fine WC grade for excellent surface finish.
- Various flute length design for covering wide range application.
- Tetrabond TAC coating provides excellent work surface finish by high hardness and low friction.
- Minimize built up edge by double edge and deep pocket design.

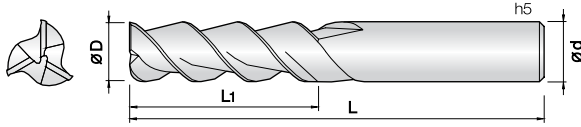
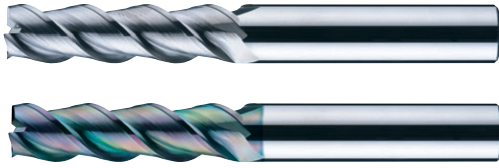


D Size	D Tolerance
ø0.5 ~ 20	+0 ~ -0.01mm

: mm

Order Number		Diameter D	Length of cut L1	Overall Length L	Shank Dia d	Diameter	
Non coated	Coated					Non coated	Coated
2ALE 030 200 S06	New 2ALEC 030 200 S06	3	20	60	6		
2ALE 030 250 S06	New 2ALEC 030 250 S06	3	25	65	6		
2ALE 035 100 S06	New 2ALEC 035 100 S06	3.5	10	45	6		
2ALE 035 150 S06	New 2ALEC 035 150 S06	3.5	15	50	6		
2ALE 040 120 S06	New 2ALEC 040 120 S06	4	12	50	6		
2ALE 040 150 S06	New 2ALEC 040 150 S06	4	15	55	6		
2ALE 040 180 S06	New 2ALEC 040 180 S06	4	18	55	6		
2ALE 040 250 S06	New 2ALEC 040 250 S06	4	25	65	6		
2ALE 040 300 S06	New 2ALEC 040 300 S06	4	30	70	6		
2ALE 045 120 S06	New 2ALEC 045 120 S06	4.5	12	50	6		
2ALE 045 180 S06	New 2ALEC 045 180 S06	4.5	18	55	6		
2ALE 050 150 S06	New 2ALEC 050 150 S06	5	15	50	6		
2ALE 050 200 S06	New 2ALEC 050 200 S06	5	20	60	6		
2ALE 050 250 S06	New 2ALEC 050 250 S06	5	25	65	6		
2ALE 050 300 S06	New 2ALEC 050 300 S06	5	30	70	6		
2ALE 055 150 S06	New 2ALEC 055 150 S06	5.5	15	50	6		
2ALE 060 150 S06	New 2ALEC 060 150 S06	6	15	50	6		
2ALE 060 200 S06	New 2ALEC 060 200 S06	6	20	60	6		
2ALE 060 250 S06	New 2ALEC 060 250 S06	6	25	65	6		
2ALE 060 300 S06	New 2ALEC 060 300 S06	6	30	70	6		
2ALE 060 350 S06	New 2ALEC 060 350 S06	6	35	75	6		
2ALE 060 400 S06	New 2ALEC 060 400 S06	6	40	80	6		
2ALE 070 200 S08	New 2ALEC 070 200 S08	7	20	60	8		
2ALE 070 300 S08	New 2ALEC 070 300 S08	7	30	70	8		
2ALE 080 200 S08	New 2ALEC 080 200 S08	8	20	60	8		
2ALE 080 250 S08	New 2ALEC 080 250 S08	8	25	65	8		
2ALE 080 300 S08	New 2ALEC 080 300 S08	8	30	70	8		
2ALE 080 400 S08	New 2ALEC 080 400 S08	8	40	80	8		
2ALE 080 450 S08	New 2ALEC 080 450 S08	8	45	90	8		
2ALE 100 250 S10	New 2ALEC 100 250 S10	10	25	70	10		
2ALE 100 300 S10	New 2ALEC 100 300 S10	10	30	75	10		
2ALE 100 350 S10	New 2ALEC 100 350 S10	10	35	80	10		
2ALE 100 450 S10	New 2ALEC 100 450 S10	10	45	90	10		
2ALE 100 500 S10	New 2ALEC 100 500 S10	10	50	100	10		
2ALE 120 300 S12	New 2ALEC 120 300 S12	12	30	75	12		
2ALE 120 350 S12	New 2ALEC 120 350 S12	12	35	80	12		
2ALE 120 400 S12	New 2ALEC 120 400 S12	12	40	90	12		
2ALE 120 450 S12	New 2ALEC 120 450 S12	12	45	100	12		
2ALE 120 500 S12	New 2ALEC 120 500 S12	12	50	100	12		
2ALE 120 600 S12	New 2ALEC 120 600 S12	12	60	110	12		
2ALE 140 300 S14	New 2ALEC 140 300 S14	14	30	80	14		
2ALE 160 400 S16	New 2ALEC 160 400 S16	16	40	90	16		
2ALE 160 550 S16	New 2ALEC 160 550 S16	16	55	110	16		
2ALE 160 700 S16	New 2ALEC 160 700 S16	16	70	120	16		
2ALE 200 450 S20	New 2ALEC 200 450 S20	20	45	100	20		
2ALE 200 650 S20	New 2ALEC 200 650 S20	20	65	120	20		
2ALE 200 800 S20	New 2ALEC 200 800 S20	20	80	135	20		





• **Endmills for Aluminum, AL alloy, non-ferrous and non-metallic materials.**

- Applied fine WC grade for excellent surface finish.
- Various flute length design for covering wide range application.
- Tetrabond TAC coating provides excellent work surface finish by high hardness and low friction.
- Minimize built up edge by double edge and deep pocket design.

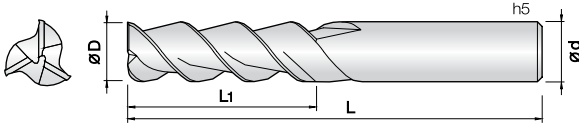
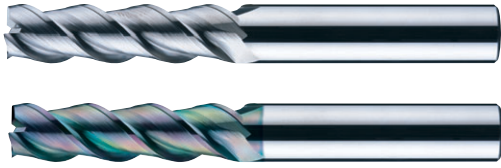


D Size	D Tolerance
ø1 ~ 20	+0 ~ -0.01mm

: mm

Order Number		Diameter	Length of cut	Overall Length	Shank Dia		
Non coated	Coated	D	L1	L	d	Non coated	Coated
3ALE 010 015 S06	New 3ALEC 010 015 S06	1	1.5	40	6		
3ALE 010 030 S06	New 3ALEC 010 030 S06	1	3	40	6		
3ALE 010 050 S06	New 3ALEC 010 050 S06	1	5	45	6		
New 3ALE 010 060 S06	New 3ALEC 010 060 S06	1	6	45	6		
New 3ALE 010 080 S06	New 3ALEC 010 080 S06	1	8	45	6		
New 3ALE 010 100 S06	New 3ALEC 010 100 S06	1	10	45	6		
3ALE 012 030 S06	New 3ALEC 012 030 S06	1.2	3	40	6		
3ALE 012 040 S06	New 3ALEC 012 040 S06	1.2	4	40	6		
3ALE 012 060 S06	New 3ALEC 012 060 S06	1.2	6	40	6		
3ALE 015 025 S06	New 3ALEC 015 025 S06	1.5	2.5	40	6		
3ALE 015 040 S06	New 3ALEC 015 040 S06	1.5	4	40	6		
3ALE 015 060 S06	New 3ALEC 015 060 S06	1.5	6	45	6		
3ALE 015 080 S06	New 3ALEC 015 080 S06	1.5	8	45	6		
3ALE 015 100 S06	New 3ALEC 015 100 S06	1.5	10	50	6		
3ALE 015 120 S06	New 3ALEC 015 120 S06	1.5	12	50	6		
New 3ALE 015 150 S06	New 3ALEC 015 150 S06	1.5	15	50	6		
3ALE 020 030 S06	New 3ALEC 020 030 S06	2	3	45	6		
3ALE 020 050 S06	New 3ALEC 020 050 S06	2	5	45	6		
3ALE 020 070 S06	New 3ALEC 020 070 S06	2	7	45	6		
3ALE 020 100 S06	New 3ALEC 020 100 S06	2	10	50	6		
3ALE 020 120 S06	New 3ALEC 020 120 S06	2	12	50	6		
3ALE 020 140 S06	New 3ALEC 020 140 S06	2	14	60	6		
3ALE 020 160 S06	New 3ALEC 020 160 S06	2	16	60	6		
New 3ALE 020 180 S06	New 3ALEC 020 180 S06	2	18	60	6		
New 3ALE 020 200 S06	New 3ALEC 020 200 S06	2	20	60	6		
3ALE 025 040 S06	New 3ALEC 025 040 S06	2.5	4	45	6		
3ALE 025 080 S06	New 3ALEC 025 080 S06	2.5	8	45	6		
3ALE 025 120 S06	New 3ALEC 025 120 S06	2.5	12	50	6		
3ALE 025 150 S06	New 3ALEC 025 150 S06	2.5	15	60	6		
3ALE 030 045 S06	New 3ALEC 030 045 S06	3	4.5	45	6		
3ALE 030 080 S06	New 3ALEC 030 080 S06	3	8	45	6		
3ALE 030 120 S06	New 3ALEC 030 120 S06	3	12	50	6		
3ALE 030 150 S06	New 3ALEC 030 150 S06	3	15	50	6		
3ALE 030 200 S06	New 3ALEC 030 200 S06	3	20	55	6		
3ALE 030 250 S06	New 3ALEC 030 250 S06	3	25	60	6		
3ALE 030 300 S06	New 3ALEC 030 300 S06	3	30	65	6		
3ALE 035 055 S06	New 3ALEC 035 055 S06	3.5	5.5	45	6		
3ALE 035 100 S06	New 3ALEC 035 100 S06	3.5	10	45	6		
3ALE 035 150 S06	New 3ALEC 035 150 S06	3.5	15	50	6		
New 3ALE 035 200 S06	New 3ALEC 035 200 S06	3.5	20	55	6		
New 3ALE 035 250 S06	New 3ALEC 035 250 S06	3.5	25	60	6		
New 3ALE 035 300 S06	New 3ALEC 035 300 S06	3.5	30	65	6		
3ALE 040 060 S06	New 3ALEC 040 060 S06	4	6	45	6		
3ALE 040 110 S06	New 3ALEC 040 110 S06	4	11	45	6		
3ALE 040 160 S06	New 3ALEC 040 160 S06	4	16	50	6		
3ALE 040 200 S06	New 3ALEC 040 200 S06	4	20	55	6		
3ALE 040 250 S06	New 3ALEC 040 250 S06	4	25	60	6		
3ALE 040 300 S06	New 3ALEC 040 300 S06	4	30	65	6		





• **Endmills for Aluminum, AL alloy, non-ferrous and non-metallic materials.**

- Applied fine WC grade for excellent surface finish.
- Various flute length design for covering wide range application.
- Tetrabond TAC coating provides excellent work surface finish by high hardness and low friction.
- Minimize built up edge by double edge and deep pocket design.

3

WC
미립자

RTAC
Coating

IDI
+0 -0.01

45°
Helix Angle

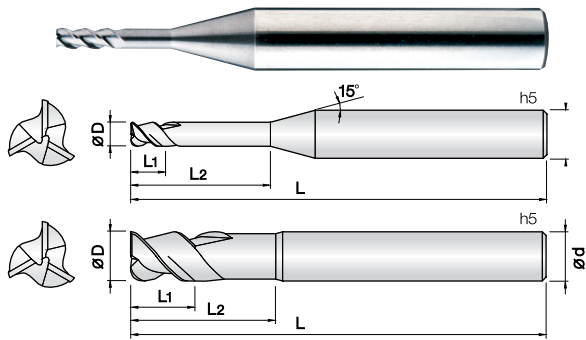
ø1 ~ ø20 Shield Edge

D Size	D Tolerance
ø1 ~ 20	+0 ~ -0.01mm

: mmm

Order Number		Diameter D	Length of cut L1	Overall Length L	Shank Dia d				
Non coated	Coated					Non coated	Coated		
	3ALE 045 120 S06	New	3ALEC 045 120 S06	4.5	12	50	6		
	3ALE 045 180 S06	New	3ALEC 045 180 S06	4.5	18	55	6		
New	3ALE 045 250 S06	New	3ALEC 045 250 S06	4.5	25	60	6		
New	3ALE 045 300 S06	New	3ALEC 045 300 S06	4.5	30	65	6		
	3ALE 050 075 S06	New	3ALEC 050 075 S06	5	7.5	50	6		
	3ALE 050 130 S06	New	3ALEC 050 130 S06	5	13	50	6		
	3ALE 050 200 S06	New	3ALEC 050 200 S06	5	20	55	6		
	3ALE 050 250 S06	New	3ALEC 050 250 S06	5	25	60	6		
	3ALE 050 300 S06	New	3ALEC 050 300 S06	5	30	65	6		
New	3ALE 050 350 S06	New	3ALEC 050 350 S06	5	35	70	6		
New	3ALE 050 400 S06	New	3ALEC 050 400 S06	5	40	75	6		
	3ALE 055 150 S06	New	3ALEC 055 150 S06	5.5	15	50	6		
New	3ALE 055 200 S06	New	3ALEC 055 200 S06	5.5	20	55	6		
New	3ALE 055 250 S06	New	3ALEC 055 250 S06	5.5	25	60	6		
	3ALE 060 090 050	New	3ALEC 060 090 050	6	9	50	6		
	3ALE 060 150 050	New	3ALEC 060 150 050	6	15	50	6		
	3ALE 060 200 055	New	3ALEC 060 200 055	6	20	55	6		
	3ALE 060 250 060	New	3ALEC 060 250 060	6	25	60	6		
	3ALE 060 300 070	New	3ALEC 060 300 070	6	30	70	6		
	3ALE 060 350 070	New	3ALEC 060 350 070	6	35	70	6		
	3ALE 060 400 075	New	3ALEC 060 400 075	6	40	75	6		
New	3ALE 060 450 080	New	3ALEC 060 450 080	6	45	80	6		
New	3ALE 060 500 090	New	3ALEC 060 500 090	6	50	90	6		
New	3ALE 070 200 060	New	3ALEC 070 200 060	7	20	60	8		
New	3ALE 070 300 075	New	3ALEC 070 300 075	7	30	75	8		
New	3ALE 070 400 090	New	3ALEC 070 400 090	7	40	90	8		
	3ALE 080 120 060	New	3ALEC 080 120 060	8	12	60	8		
	3ALE 080 200 060	New	3ALEC 080 200 060	8	20	60	8		
	3ALE 080 250 065	New	3ALEC 080 250 065	8	25	65	8		
	3ALE 080 300 070	New	3ALEC 080 300 070	8	30	70	8		
	3ALE 080 350 075	New	3ALEC 080 350 075	8	35	75	8		
	3ALE 080 400 080	New	3ALEC 080 400 080	8	40	80	8		
	3ALE 080 450 090	New	3ALEC 080 450 090	8	45	90	8		
	3ALE 080 500 090	New	3ALEC 080 500 090	8	50	90	8		
	3ALE 080 550 100	New	3ALEC 080 550 100	8	55	100	8		
	3ALE 080 600 110	New	3ALEC 080 600 110	8	60	110	8		
New	3ALE 080 700 120	New	3ALEC 080 700 120	8	70	120	8		
	3ALE 100 150 070	New	3ALEC 100 150 070	10	15	70	10		
	3ALE 100 250 070	New	3ALEC 100 250 070	10	25	70	10		
	3ALE 100 300 075	New	3ALEC 100 300 075	10	30	75	10		
	3ALE 100 350 080	New	3ALEC 100 350 080	10	35	80	10		
	3ALE 100 400 090	New	3ALEC 100 400 090	10	40	90	10		
	3ALE 100 450 090	New	3ALEC 100 450 090	10	45	90	10		
	3ALE 100 500 100	New	3ALEC 100 500 100	10	50	100	10		
	3ALE 100 550 100	New	3ALEC 100 550 100	10	55	100	10		
	3ALE 100 600 110	New	3ALEC 100 600 110	10	60	110	10		
	3ALE 100 650 110	New	3ALEC 100 650 110	10	65	110	10		
	3ALE 100 700 120	New	3ALEC 100 700 120	10	70	120	10		





Endmills for Aluminum, AL alloy, non-ferrous and non-metallic materials.

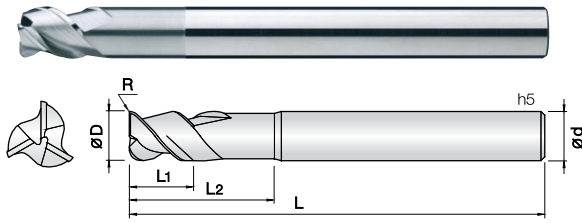
- Applied fine WC grade for excellent surface finish.
- Applied short flute length for various applications.
- Tetrabond TAC coating provides excellent work surface finish by high hardness and low friction.
- Minimize built up edge by double edge and deep pocket design.

D Size	D Tolerance
ø0.8 ~ 12	+0 ~ -0.01mm

mm

Order Number			Diameter D	Length of cut L1	Effective Length L2	Overall Length L	Shank Dia d		
Non coated	RTAC	RTAC Coated						Non coated	Coated
3ALR 008 016 S04	New	3ALRC 008 016 S04	0.8	1.6	-	50	4		
3ALR 008 030 S04	New	3ALRC 008 030 S04	0.8	1.6	3	50	4		
3ALR 008 040 S04	New	3ALRC 008 040 S04	0.8	1.6	4	50	4		
3ALR 008 050 S04	New	3ALRC 008 050 S04	0.8	1.6	5	50	4		
3ALR 008 060 S04	New	3ALRC 008 060 S04	0.8	1.6	6	50	4		
3ALR 008 080 S04	New	3ALRC 008 080 S04	0.8	1.6	8	50	4		
3ALR 008 100 S04	New	3ALRC 008 010 S04	0.8	1.6	10	50	4		
3ALR 008 120 S04	New	3ALRC 008 012 S04	0.8	1.6	12	50	4		
3ALR 010 020 S06	New	3ALRC 010 020 S06	1	2	-	60	6		
3ALR 010 040 S06	New	3ALRC 010 040 S06	1	2	4	60	6		
3ALR 010 060 S06	New	3ALRC 010 060 S06	1	2	6	60	6		
3ALR 010 080 S06	New	3ALRC 010 080 S06	1	2	8	60	6		
3ALR 010 100 S06	New	3ALRC 010 100 S06	1	2	10	60	6		
3ALR 010 120 S06	New	3ALRC 010 120 S06	1	2	12	60	6		
3ALR 010 140 S06	New	3ALRC 010 140 S06	1	2	14	60	6		
New 3ALR 010 160 S06	New	3ALRC 010 160 S06	1	2	16	60	6		
3ALR 015 030 S06	New	3ALRC 015 030 S06	1.5	3	-	60	6		
3ALR 015 060 S06	New	3ALRC 015 060 S06	1.5	3	6	60	6		
3ALR 015 080 S06	New	3ALRC 015 080 S06	1.5	3	8	60	6		
3ALR 015 100 S06	New	3ALRC 015 100 S06	1.5	3	10	60	6		
3ALR 015 120 S06	New	3ALRC 015 120 S06	1.5	3	12	60	6		
3ALR 015 140 S06	New	3ALRC 015 140 S06	1.5	3	14	60	6		
3ALR 015 160 S06	New	3ALRC 015 160 S06	1.5	3	16	60	6		
New 3ALR 015 180 S06	New	3ALRC 015 180 S06	1.5	3	18	60	6		
New 3ALR 015 200 S06	New	3ALRC 015 200 S06	1.5	3	20	60	6		
3ALR 020 040 S06	New	3ALRC 020 040 S06	2	4	-	60	6		
3ALR 020 080 S06	New	3ALRC 020 080 S06	2	4	8	60	6		
3ALR 020 100 S06	New	3ALRC 020 100 S06	2	4	10	60	6		
3ALR 020 120 S06	New	3ALRC 020 120 S06	2	4	12	60	6		
3ALR 020 140 S06	New	3ALRC 020 140 S06	2	4	14	60	6		
3ALR 020 160 S06	New	3ALRC 020 160 S06	2	4	16	60	6		
3ALR 020 200 S06	New	3ALRC 020 200 S06	2	4	20	60	6		
New 3ALR 020 220 S06	New	3ALRC 020 220 S06	2	4	22	60	6		
New 3ALR 020 250 S06	New	3ALRC 020 250 S06	2	4	25	65	6		
3ALR 025 050 S06	New	3ALRC 025 050 S06	2.5	5	-	60	6		
3ALR 025 100 S06	New	3ALRC 025 100 S06	2.5	5	10	60	6		
3ALR 025 150 S06	New	3ALRC 025 150 S06	2.5	5	15	60	6		
3ALR 025 200 S06	New	3ALRC 025 200 S06	2.5	5	20	60	6		
3ALR 025 250 S06	New	3ALRC 025 250 S06	2.5	5	25	60	6		
New 3ALR 025 300 S06	New	3ALRC 025 300 S06	2.5	5	30	70	6		
3ALR 030 060 S06	New	3ALRC 030 060 S06	3	6	-	60	6		
3ALR 030 100 S06	New	3ALRC 030 100 S06	3	6	10	60	6		
3ALR 030 150 S06	New	3ALRC 030 150 S06	3	6	15	60	6		
3ALR 030 200 S06	New	3ALRC 030 200 S06	3	6	20	70	6		
3ALR 030 250 S06	New	3ALRC 030 250 S06	3	6	25	70	6		
3ALR 030 300 S06	New	3ALRC 030 300 S06	3	6	30	80	6		
New 3ALR 030 350 S06	New	3ALRC 030 350 S06	3	6	35	80	6		
New 3ALR 030 400 S06	New	3ALRC 030 400 S06	3	6	40	90	6		





- Endmills for Aluminum, AL alloy, non-ferrous and non-metallic materials.
- Applied fine WC grade for excellent surface finish.
- Minimize built up edge by double edge and deep pocket design.
- Tetrabond TAC coating provides excellent work surface finish by high hardness and low friction.
- High speed, feed applicable by 3 flute 45° degree helix and short flute design.



D Size	D Tolerance
Ø6 ~ 20	+0 ~ -0.015mm

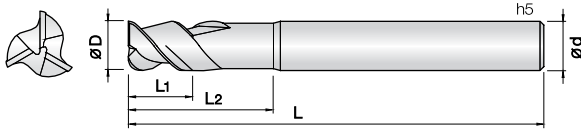
: mm

Order Number		Diameter	Length of cut	Effective Length	Overall Length	Shank Dia		
Non coated		D × R	L1	L2	L	d	Non coated	Coated
3ALC 060 005 050	3ALCC 060 005 050	6 X R0.5	15	-	50	6		
3ALC 060 005 070	3ALCC 060 005 070	6 X R0.5	7	20	70	6		
3ALC 060 010 050	3ALCC 060 010 050	6 X R1	15	-	50	6		
3ALC 060 010 070	3ALCC 060 010 070	6 X R1	7	20	70	6		
3ALC 080 005 060	3ALCC 080 005 060	8 X R0.5	20	-	60	8		
3ALC 080 005 080	3ALCC 080 005 080	8 X R0.5	9	25	80	8		
3ALC 080 010 060	3ALCC 080 010 060	8 X R1	20	-	60	8		
3ALC 080 010 080	3ALCC 080 010 080	8 X R1	9	25	80	8		
3ALC 080 020 060	3ALCC 080 020 060	8 X R2	20	-	60	8		
3ALC 080 020 080	3ALCC 080 020 080	8 X R2	9	25	80	8		
3ALC 080 025 080	3ALCC 080 025 080	8 X R2.5	9	25	80	8		
New 3ALC 100 005 070	New 3ALCC 100 005 070	10 X R0.5	25	-	70	10		
New 3ALC 100 005 100	New 3ALCC 100 005 100	10 X R0.5	11	30	100	10		
3ALC 100 010 070	3ALCC 100 010 070	10 X R1	25	-	70	10		
3ALC 100 010 100	3ALCC 100 010 100	10 X R1	11	30	100	10		
3ALC 100 015 070	3ALCC 100 015 070	10 X R1.5	25	-	70	10		
3ALC 100 015 100	3ALCC 100 015 100	10 X R1.5	11	30	100	10		
3ALC 100 020 070	3ALCC 100 020 070	10 X R2	25	-	70	10		
3ALC 100 020 100	3ALCC 100 020 100	10 X R2	11	30	100	10		
3ALC 100 025 100	3ALCC 100 025 100	10 X R2.5	11	30	100	10		
New 3ALC 120 005 075	New 3ALCC 120 005 075	12 X R0.5	30	-	75	12		
New 3ALC 120 005 110	New 3ALCC 120 005 110	12 X R0.5	13	36	110	12		
3ALC 120 010 075	3ALCC 120 010 075	12 X R1	30	-	75	12		
3ALC 120 010 110	3ALCC 120 010 110	12 X R1	13	36	110	12		
3ALC 120 015 110	3ALCC 120 015 110	12 X R1.5	13	36	110	12		
3ALC 120 020 075	3ALCC 120 020 075	12 X R2	30	-	75	12		
3ALC 120 020 110	3ALCC 120 020 110	12 X R2	13	36	110	12		
3ALC 120 025 110	3ALCC 120 025 110	12 X R2.5	13	36	110	12		
3ALC 120 030 075	3ALCC 120 030 075	12 X R3	30	-	75	12		
3ALC 120 030 110	3ALCC 120 030 110	12 X R3	13	36	110	12		
3ALC 120 040 075	3ALCC 120 040 075	12 X R4	30	-	75	12		
3ALC 120 040 110	3ALCC 120 040 110	12 X R4	13	36	110	12		
New 3ALC 160 005 130	New 3ALCC 160 005 130	16 X R0.5	17	50	130	16		
3ALC 160 010 090	3ALCC 160 010 090	16 X R1	35	-	90	16		
3ALC 160 010 130	3ALCC 160 010 130	16 X R1	17	50	130	16		
3ALC 160 020 090	3ALCC 160 020 090	16 X R2	35	-	90	16		
3ALC 160 020 130	3ALCC 160 020 130	16 X R2	17	50	130	16		
3ALC 160 025 130	3ALCC 160 025 130	16 X R2.5	17	50	130	16		
3ALC 160 030 090	3ALCC 160 030 090	16 X R3	35	-	90	16		
3ALC 160 030 130	3ALCC 160 030 130	16 X R3	17	50	130	16		
3ALC 160 040 090	3ALCC 160 040 090	16 X R4	35	-	90	16		
3ALC 160 040 130	3ALCC 160 040 130	16 X R4	17	50	130	16		
3ALC 160 050 090	3ALCC 160 050 090	16 X R5	35	-	90	16		
New 3ALC 200 010 150	New 3ALCC 200 010 150	20 X R1	21	60	150	20		
3ALC 200 020 150	3ALCC 200 020 150	20 X R2	21	60	150	20		
3ALC 200 025 150	3ALCC 200 025 150	20 X R2.5	21	60	150	20		
3ALC 200 030 150	3ALCC 200 030 150	20 X R3	21	60	150	20		
3ALC 200 040 150	3ALCC 200 040 150	20 X R4	21	60	150	20		



3ARE

3 Flutes Semi-Finishing & Roughing End Mills for Aluminum



- High speed semi finishing and roughing endmills for Aluminum, AL alloy, non-ferrous and non-metallic materials.
- JCRO coating provides wear resistance improvement as well as avoid edge stress in various applications.
- Minimize built up edge by chip braker and deep pocket design.
- Good surface integrity differently from competitor's AL roughing endmills.

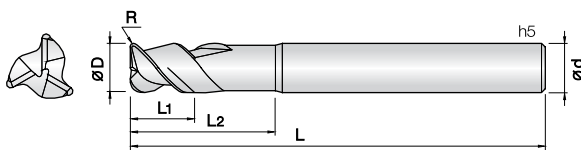


D Size	D Tolerance
ø6 ~ 8	-0.02 ~ -0.04mm
ø10 ~ 20	-0.02 ~ -0.05mm

Order Number	Diameter D	Length of cut L1	Effective Length L2	Overall Length L	Shank Dia d	Order Number	Diameter D	Length of cut L1	Effective Length L2	Overall Length L	Shank Dia d
3ARE 060 150 S06	6	10	15	50	6	3ARE 160 500 S16	16	35	50	120	16
3ARE 060 200 S06	6	15	20	70	6	3ARE 200 500 S20	20	35	50	110	20
3ARE 080 200 S08	8	15	20	60	8	3ARE 200 600 S20	20	45	60	120	20
3ARE 080 250 S08	8	20	25	80	8						
3ARE 100 250 S10	10	18	25	70	10						
3ARE 100 300 S10	10	23	30	90	10						
3ARE 120 300 S12	12	20	30	80	12						
3ARE 120 400 S12	12	30	40	100	12						
3ARE 160 350 S16	16	25	35	110	16						

3ARC

3 Flutes Semi-Finishing & Roughing Corner Radius End Mills for Aluminum



- High speed semi finishing and roughing endmills for Aluminum, AL alloy, non-ferrous and non-metallic materials.
- JCRO coating provides wear resistance improvement as well as avoid edge stress in various applications.
- Minimize built up edge by chip braker and deep pocket design.
- Good surface integrity differently from competitor's AL roughing endmills.



Size	D Tolerance
ø6 ~ 20	+0 ~ -0.015mm

Order Number	Diameter D x R	Length of cut L1	Effective Length L2	Overall Length L	Shank Dia d	Order Number	Diameter D x R	Length of cut L1	Effective Length L2	Overall Length L	Shank Dia d
3ARC 060 005 S06	6 X R0.5	9	15	65	6	3ARC 160 010 S16	16 X R1	25	35	110	16
3ARC 060 010 S06	6 X R1	9	15	65	6	3ARC 160 020 S16	16 X R2	25	35	110	16
3ARC 080 005 S08	8 X R0.5	12	20	70	8	3ARC 160 030 S16	16 X R3	25	35	110	16
3ARC 080 010 S08	8 X R1	12	20	70	8	3ARC 200 020 S20	20 X R2	30	50	110	20
3ARC 100 010 S10	10 X R1	15	25	75	10	3ARC 200 030 S20	20 X R3	30	50	110	20
3ARC 100 020 S10	10 X R2	15	25	75	10						
3ARC 120 010 S12	12 X R1	20	30	80	12						
3ARC 120 020 S12	12 X R2	20	30	80	12						
3ARC 120 030 S12	12 X R3	20	30	80	12						



01245 260414 - 250910



sales@smarttoolsuk.com



www.smarttoolsuk.com

Material	Aluminum Alloys / A7075 etc.				Aluminum Alloys / AC4B etc.			
Speed	300m/min		240m/min		240m/min		200m/min	
	Side Milling		Slotting		Side Milling		Slotting	
Outside Diameter	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
1mm	34,000	500	34,000	400	34,000	400	34,000	300
2mm	34,000	950	32,300	720	32,300	720	27,200	470
3mm	27,200	1,200	21,300	800	21,300	800	18,000	510
4mm	20,400	1,300	16,000	850	16,000	850	14,000	550
5mm	16,200	1,400	13,000	850	13,000	850	11,000	600
6mm	13,600	1,600	11,000	940	11,000	940	9,400	640
8mm	10,200	1,600	8,000	1,000	8,000	1,000	6,800	680
10mm	8,100	1,600	6,500	1,000	6,500	1,000	5,400	680
12mm	6,800	1,600	5,400	1,000	5,400	1,000	4,500	680
16mm	5,100	1,600	4,100	1,000	4,100	1,000	3,400	610
20mm	4,100	1,300	3,200	850	3,200	850	2,700	560

Depth of Cut	Side Milling (Aluminum Alloys / A7075 etc.)	Slotting (Aluminum Alloys / A7075 etc.)	Side Milling (Aluminum Alloys / AC4B etc.)	Slotting (Aluminum Alloys / AC4B etc.)
	<p> $\leq 0.2D$ ($D < \phi 3$) $\leq 0.3D$ ($D \geq \phi 3$) $\leq 1D$ </p>	<p> $\leq 1D$ MAX. 12mm </p>	<p> $\leq 0.2D$ ($D < \phi 3$) $\leq 0.5D$ ($D \geq \phi 3$) $\leq 1D$ </p>	<p> $\leq 1D$ MAX. 12mm </p>

3ALR/3ALE

Material	Aluminum Alloys etc.							
	3ALE				3ALR			
Outside Diameter	RPM	FEED			RPM	FEED		
		Vertical	Slotting	Side Milling		Vertical	Slotting	Side Milling
1mm	25,500	130	770	930	30,000	150	900	1,100
2mm	25,500	190	1,530	1,800	30,000	225	1,800	2,150
3mm	18,400	190	1,700	2,000	21,600	225	2,000	2,400
4mm	14,000	255	1,700	2,000	16,200	300	2,000	2,400
5mm	11,000	255	1,700	2,000	13,000	300	2,000	2,400
6mm	9,200	255	1,700	2,000	10,800	300	2,000	2,400
8mm	7,000	255	1,700	2,000	8,100	300	2,000	2,400
10mm	5,500	210	1,700	2,000	6,480	250	2,000	2,400
12mm	4,400	170	1,700	2,000	5,400	200	2,000	2,400
16mm	3,200	130	1,530	1,900	-	-	-	-
20mm	2,000	85	1,360	1,700	-	-	-	-

Milling Amount (mm)	Ap=0.75D	Ap=0.75D	Ap=0.75D/ Ae=0.3D	Ap=0.75D	Ap=0.75D	Ap=0.75D/ Ae=0.3D
Depth of Cut						

3ALC

	Side Cutting		Slotting	
Material	Aluminum Alloys / A7075 etc.		Aluminum Alloys / A7075 etc.	
Outside Diameter	RPM	FEED	RPM	FEED
6mm	20,000	8,400	20,000	6,600
8mm	18,000	7,500	18,000	5,400
10mm	15,000	6,000	15,000	4,000
12mm	13,000	5,400	13,000	3,200
16mm	10,000	5,400	10,000	3,200
20mm	8,000	5,000	8,000	3,000

Depth of Cut	Side Cutting	Slotting
	<p> $\leq 0.3D$ $\leq 0.8D$ D : 외경 Outside Diameter </p>	<p> $\leq 0.5D$ D : 외경 Outside Diameter </p>



3ARE/3ARC

• RPM : rev./min • Feed : mm/min

Material	Copper		Aluminum	
Speed	80m/min		80 ~ 150m/min	
Outside Diameter	RPM	FEED	RPM	FEED
6mm	4,200	320	8,000	1,200
8mm	3,200	320	6,000	1,200
10mm	2,600	320	4,800	1,200
12mm	2,100	320	4,000	1,200
16mm	1,600	320	3,000	1,200
20mm	1,300	320	2,400	1,200

Depth of Cut		
--------------	--	--

3ARO

• RPM : rev./min • Feed : mm/min

Side Cutting				
Material	Aluminum Alloys / A7075 etc.		Aluminum Alloys / AC4B etc.	
Outside Diameter	RPM	FEED	RPM	FEED
4mm	30,000	4,200	16,000	1,800
5mm	27,000	4,900	14,400	2,000
6mm	24,300	5,500	11,700	2,100
8mm	18,000	5,400	9,000	2,200
10mm	14,400	5,200	7,200	2,100
12mm	11,700	4,800	5,900	1,900
16mm	9,000	4,600	4,500	1,800
20mm	7,200	4,300	3,600	1,700

Depth of Cut	
--------------	--



01245 260414 - 250910



sales@smarttoolsuk.com



www.smarttoolsuk.com

Notes.



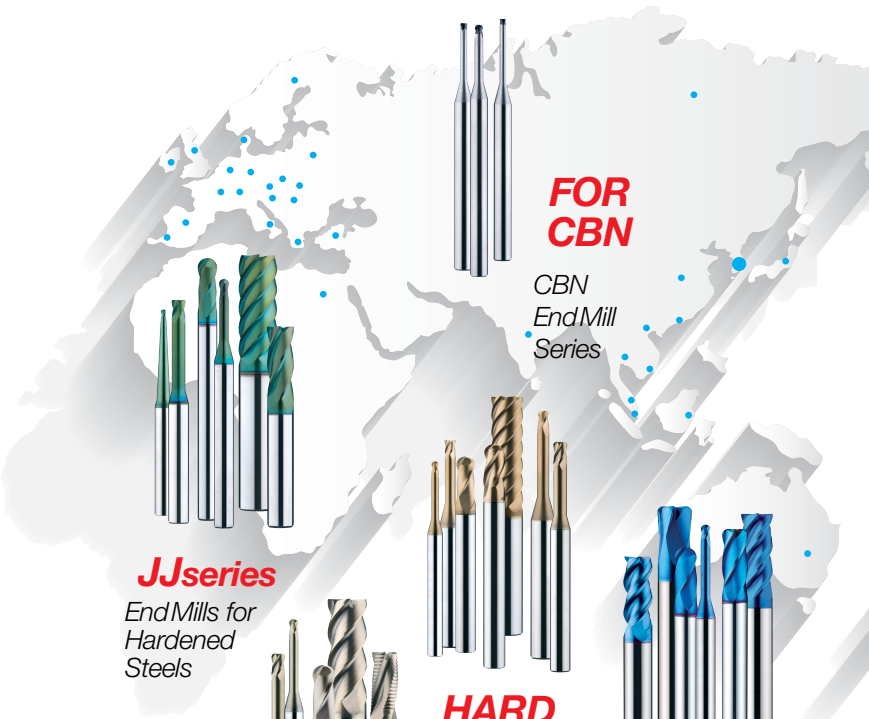
01245 260414 - 250910



sales@smarttoolsuk.com



www.smarttoolsuk.com



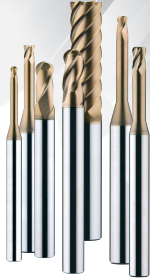
**FOR
CBN**

CBN
EndMill
Series



JJseries

End Mills for
Hardened
Steels



**HARD
series**

High Speed
EndMill Series



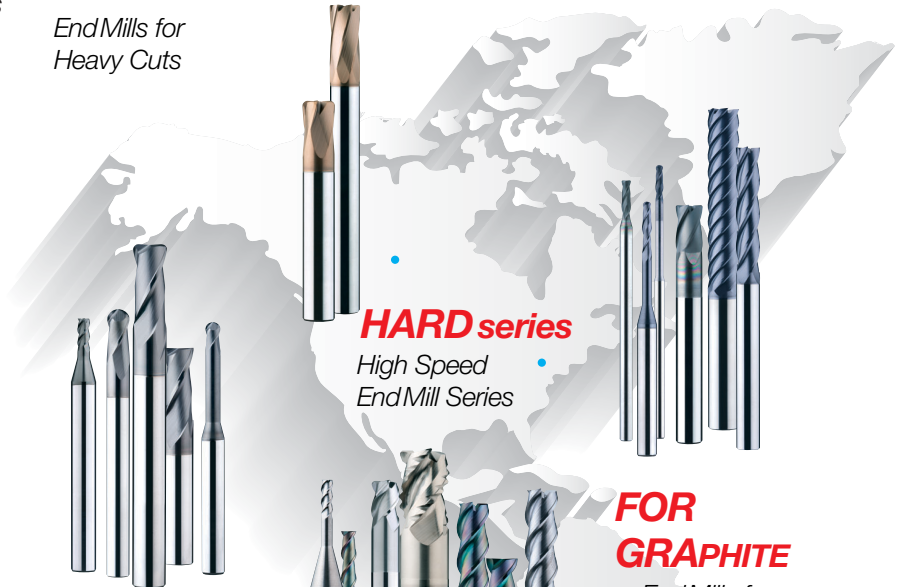
Eseries

End Mills for
Heavy Cuts



Gseries

End Mills for
General
purpose



HARDseries

High Speed
EndMill Series



G-TAC

G-TAC Coated
EndMill Series



**FOR
GRAPHITE**

End Mills for
•Graphite

**FOR
ALUMINUM**

End Mills for
Aluminum



**FOR
SUS**

End Mills
for SUS

Smart Tools (UK) Ltd
The MedBIC
Anglia Ruskin University
Alan Cherry Drive
Chelmsford
CM1 1SQ
Telephone: +44 (0)1245 260414 - 250910

Email: sales@smarttoolsuk.com



01245 260414 - 250910



sales@smarttoolsuk.com



www.smarttoolsuk.com