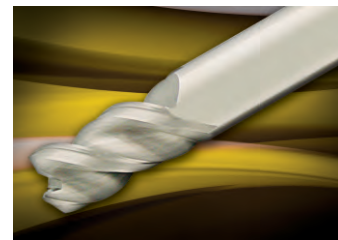
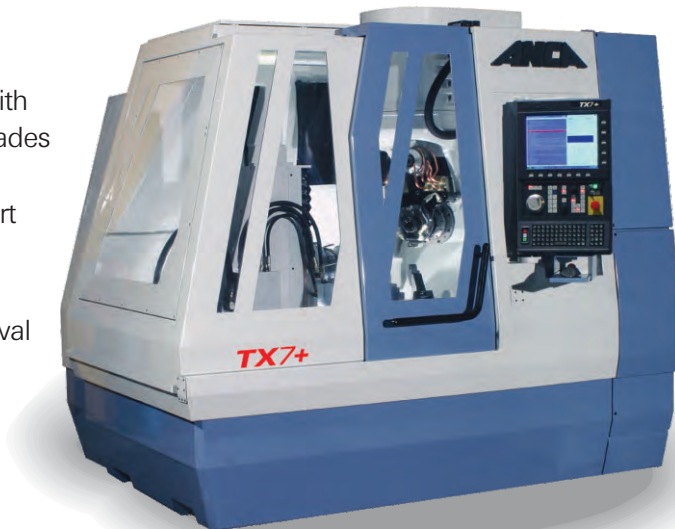


Solid Carbide High Performance

End Mills for Aluminium and other Non-Ferrous Materials

The main features of these solid carbide end mills for aluminium include:

- Innovative new geometries designed in conjunction with our international development partners who have decades of design and development experience in the carbide tooling industry. The benefit is a range of state-of-the-art carbide cutting tools with superior performance.
- Sub-micron carbide grade of European origin.
- Optimal flute geometry delivers maximum metal removal rates and better chip evacuation.
- Effective in a full range of machine speeds, from 3 000 to 20 000 RPM's and more.
- Only one tool is needed for use in roughing and finishing operations.
- Can take deeper and wider cuts - axial and radial. Slotting is effective up to full 1xD axial depth. Side milling (profiling) is effective up to 0.5xD radial by 1.0xD axial depth.
- Shank tolerances to h6.
- Reinforced corner by extra positive dubbing for long tool life.
- Centre cutting with drilling possibility.
- Designed to work standard over the 1 mm to 20mm diameter range.
- Multiple corner radii and extended neck configurations are available to maximise metal removal rates.



Applications:

- High stock removal rates at high speeds and feeds, excellent finish quality and extended tool life are the major benefits of these ranges.
- Can be used in a wide range of applications, with excellent results achieved in the aerospace, automotive and die and mould industries.
- Effective in high-speed machining, conventional milling and MQL applications.
- Designed for customers machining a large amount of aluminium products as significantly reduces machining time in aluminium cutting.

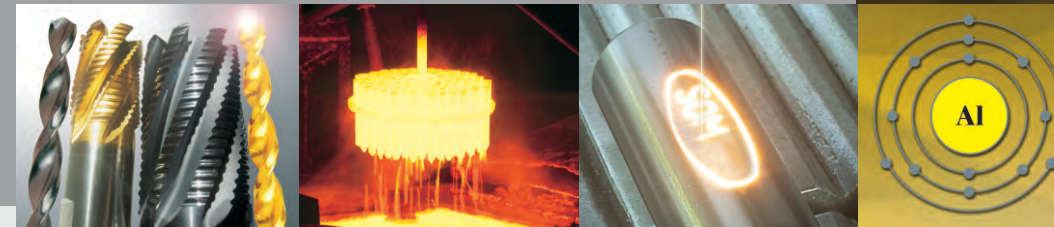
SOLID CARBIDE END MILLS FOR ALUMINIUM



Manufacturers & Suppliers
of Drills, Reamers, End Mills,
Bore Cutters, Taps & Dies,
Toolbits, Solid Carbide Tooling,
Carbide Insert Tooling,
Custom Tools and
Surface Coatings



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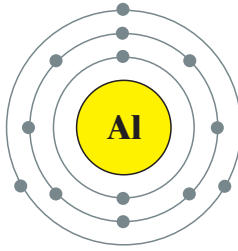
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SOLID CARBIDE END MILLS FOR ALUMINIUM

Solid Carbide High Performance

End Mills for Aluminium and other Non-Ferrous Materials



The current market trend is towards the increasing use of aluminium substrate in the manufacture of die cut and moulds. Aluminium substrate offers many advantages, such as excellent machinability and good thermal conductivity, as well as being light in weight, with a high strength-to-weight ratio.

Due to the relative softness of aluminium, specific characteristics and geometries in solid carbide end mills are required for efficient machining of this ductile material.

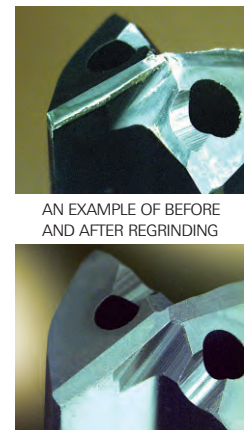
Somta's high efficiency carbide end mill range with optimal flute geometry provides all the required features for high performance machining of aluminium, with the added benefits of greater stock removal rates at high speeds and feeds, excellent surface finish quality and extended tool life.

The range allows for roughing and finishing applications in aluminium and other non-ferrous materials and competes favourably with current global state-of-the-art solid carbide cutting tool designs.

Somta has integrated a state of the art Walter Helicheck Basic 3 into its quality check management process. The Walter Helicheck is a 4-axis CNC measuring machine for non-contact complete measurement of rotationally symmetrical precision tools with complex geometry.

Regrind Services

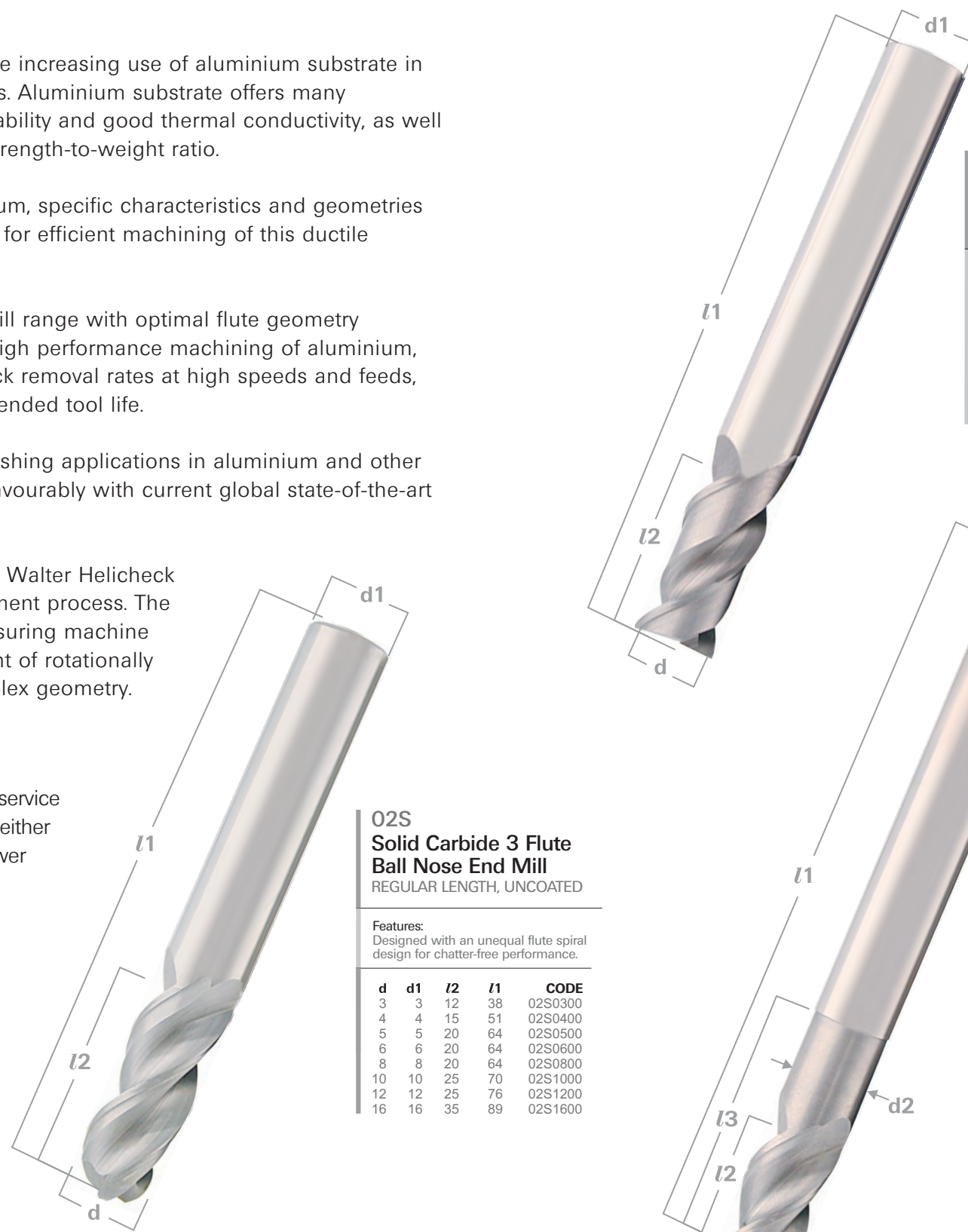
Somta offers a cost effective value-added service of regrinding of any used carbide tooling, either standard or special form. This enables lower machining costs over the life of the solid carbide tool, with enhanced tool performance.



AN EXAMPLE OF BEFORE AND AFTER REGRINDING

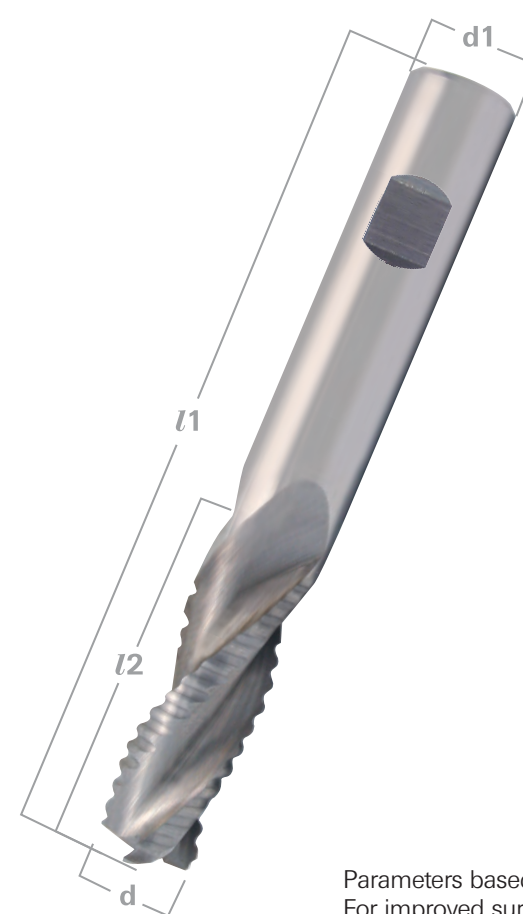


SOLID CARBIDE END MILLS FOR ALUMINIUM



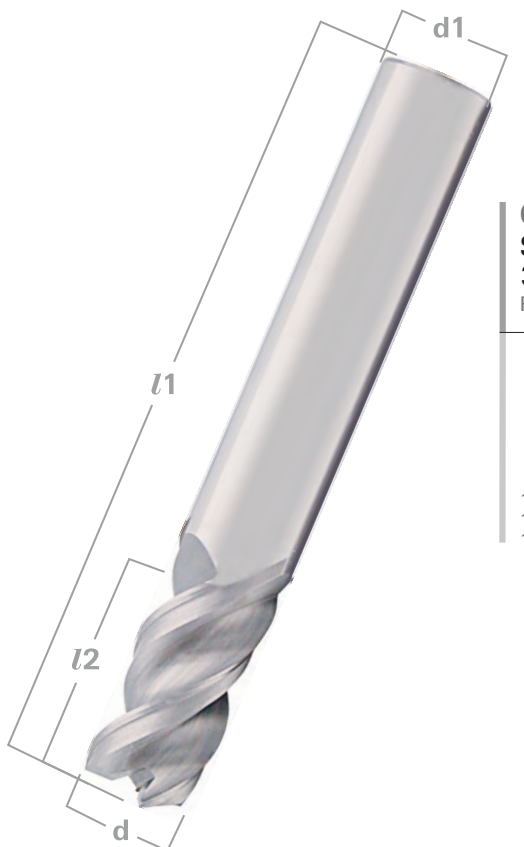
O2A
Solid Carbide
2 Flute End Mill
REGULAR LENGTH, UNCOATED

d	d1	l2	l1	CODE
1	6	3	50	O2A0100
2	6	6	50	O2A0200
3	6	8	57	O2A0300
4	6	11	57	O2A0400
5	6	13	57	O2A0500
6	6	13	57	O2A0600
8	8	19	63	O2A0800
10	10	22	75	O2A1000
12	12	26	83	O2A1200
16	16	32	92	O2A1600



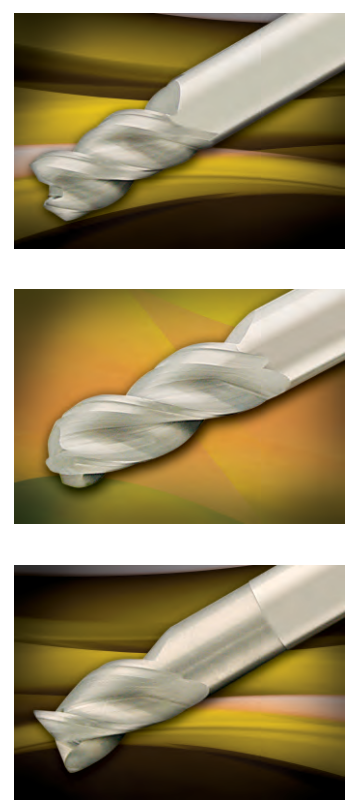
O3C
Solid Carbide 3 Flute
Roughing End Mill
REGULAR LENGTH, KNUCKLE FORM,
COARSE PITCH, UNCOATED

d	d1	l2	l1	CODE
6	6	13	57	O3C0600
8	8	16	63	O3C0800
10	10	22	72	O3C1000
12	12	26	83	O3C1200
16	16	32	92	O3C1600
20	20	38	104	O3C2000



O2R
Solid Carbide
3 Flute End Mill
REGULAR LENGTH, UNCOATED

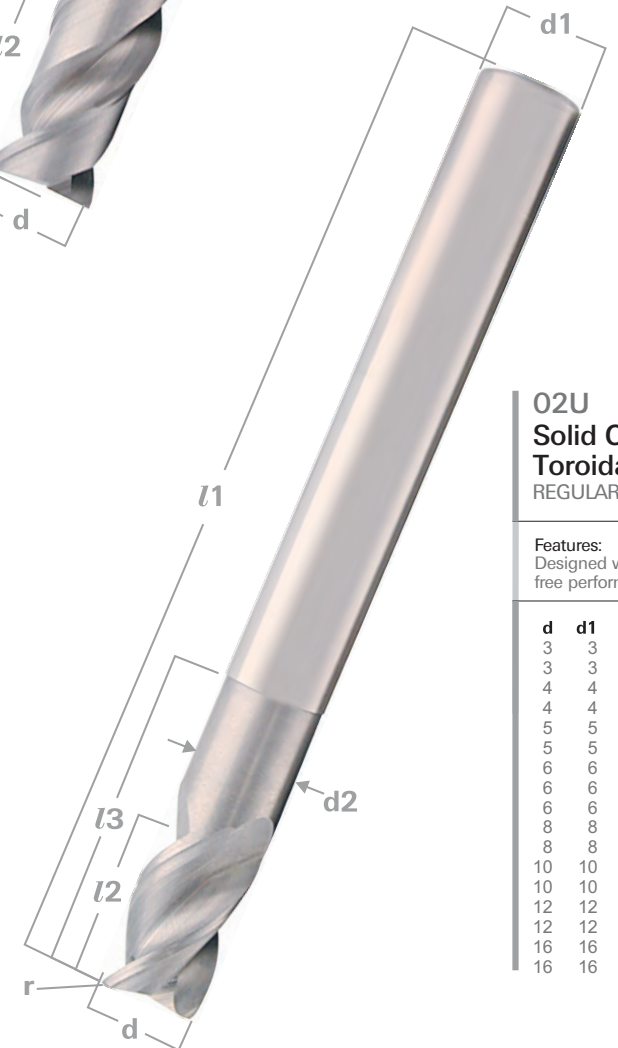
d	d1	l2	l1	CODE
2	6	3	50	O2R0200
3	6	6	50	O2R0300
4	6	8	57	O2R0400
5	6	11	57	O2R0500
6	6	13	57	O2R0600
8	8	13	57	O2R0800
10	10	19	63	O2R1000
12	12	22	75	O2R1200
16	16	26	83	O2R1600



O2S
Solid Carbide 3 Flute
Ball Nose End Mill
REGULAR LENGTH, UNCOATED

Features:
Designed with an unequal flute spiral design for chatter-free performance.

d	d1	l2	l1	CODE
3	3	12	38	O2S0300
4	4	15	51	O2S0400
5	5	20	64	O2S0500
6	6	20	64	O2S0600
8	8	20	64	O2S0800
10	10	25	70	O2S1000
12	12	25	76	O2S1200
16	16	35	89	O2S1600



O2U
Solid Carbide 3 Flute
Toroidal End Mill with Neck
REGULAR LENGTH, UNCOATED

Features:
Designed with an unequal flute spiral design for chatter-free performance.

d	d1	d2	l3	l2	l1	r	CODE
3	3	2.8	12	4.5	55	0.2	O2U0300
3	3	2.8	12	4.5	55	0.5	O2U0301
4	4	3.8	12	6	55	0.2	O2U0400
4	4	3.8	12	6	55	0.5	O2U0401
5	5	4.8	15	7.5	58	0.2	O2U0500
5	5	4.8	15	7.5	58	0.5	O2U0501
6	6	5.8	18	9	63	0.2	O2U0600
6	6	5.8	18	9	63	0.5	O2U0601
6	6	5.8	18	9	63	1	O2U0602
8	8	7.7	24	12	76	0.5	O2U0800
8	8	7.7	24	12	76	1	O2U0801
10	10	9.7	30	15	89	0.5	O2U1000
10	10	9.7	30	15	89	1	O2U1001
12	12	11.6	36	18	100	0.5	O2U1200
12	12	11.6	36	18	100	1	O2U1201
16	16	15.5	48	24	110	1	O2U1600
16	16	15.5	48	24	110	2	O2U1601

Parameters based on ideal conditions.
For improved surface finish, reduce feed per tooth.

Material Type	Hardness HB	Tensile Strength N/mm ²	Recommended Surface Speed in m/min	Recommended feed in mm per tooth for Carbide End Mills based on 1.0 x D cutting depth with 0.5 x D cutting width. For slotting up to 1.0 x D, reduce by 30%												
				End Mill Diameter in mm												
				min	max	1	2	3	4	5	6	8	10	12	16	20
O2A Solid Carbide 2 Flute End Mill REGULAR LENGTH, UNCOATED																
Aluminium wrought alloys	< 100	< 350	500	2000	0.014	0.018	0.027	0.036	0.045	0.054	0.072	0.090	0.108	0.144	-	
Aluminium cast alloys > 5% Si < 10% Si	< 120	< 400	500	1500	0.012	0.016	0.024	0.032	0.041	0.049	0.065	0.081	0.097	0.130	-	
O3C Solid Carbide 3 Flute Roughing End Mill REGULAR LENGTH, KNUCKLE FORM, COARSE PITCH, UNCOATED																
Aluminium wrought alloys	< 100	< 350	500	2000	-	-	-	-	-	0.066	0.088	0.110	0.132	0.176	0.220	
Aluminium cast alloys > 5% Si < 10% Si	< 120	< 400	500	1500	-	-	-	-	-	0.059	0.079	0.099	0.119	0.158	0.198	
O2R Solid Carbide 3 Flute End Mill REGULAR LENGTH, UNCOATED																
Aluminium wrought alloys	< 100	< 350	500	2000	-	0.018	0.027	0.036	0.045	0.054	0.072	0.090	0.108	0.144	-	
Aluminium cast alloys > 5% Si < 10% Si	< 120	< 400	500	1500	-	0.016	0.024	0.032	0.041	0.049	0.065	0.081	0.097	0.130	-	
O2S Solid Carbide 3 Flute Ball Nose End Mill REGULAR LENGTH, UNCOATED																
Aluminium wrought alloys	< 100	< 350	500	2000	-	-	0.032	0.041	0.049	0.060	0.080	0.100	0.120	0.160	-	
Aluminium cast alloys > 5% Si < 10% Si	< 120	< 400	500	1500	-	-	0.027	0.036	0.045	0.054	0.072	0.090	0.108	0.144	-	
O2U Solid Carbide 3 Flute Toroidal End Mill with Neck REGULAR LENGTH, UNCOATED																
Aluminium wrought alloys	< 100	< 350	500	2000	-	-	0.032	0.041	0.049	0.060	0.080	0.100	0.120	0.160	-	
Aluminium cast alloys > 5% Si < 10% Si	< 120	< 400	500	1500	-	-	0.027	0.036	0.045	0.054	0.072	0.090	0.108	0.144	-	