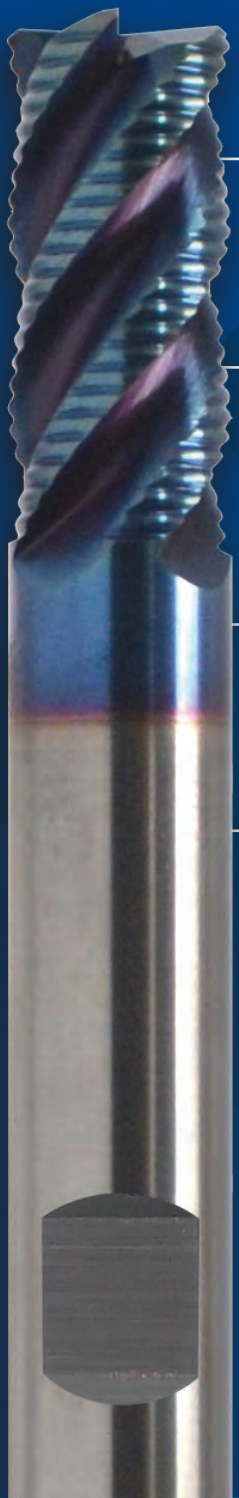
NEW DESIGN
IMPROVED TOOL PERFORMANCE & LIFE!

shaping your dreams

SOMTA
World Class Cutting Tools

OSG GROUP COMPANY

CARBIDE CUTMASTER ROUGHING END MILL RANGE



1. Wider Lands
2. Improved Rake and Helix Angle Geometry Convergence
3. New Coating Technology
4. Size Range 6 to 20mm

Improved Manufacturing Process resulting in:

- ✓ Increased Rigidity
- ✓ Highly Efficient Milling
- ✓ Smoother Cuts
- ✓ Longer Tool Life

PRO BRAND

Introducing the NEW DESIGN Carbide CutMaster Roughing End Mill Range

◉ Recommended
○ Suitable

P						M				K				Ti			Ni			Cu				N				Syn			H			
1.1	1.2	1.3	1.4	1.5	1.6	2.1	2.2	2.3	2.4	3.1	3.2	3.3	3.4	4.1	4.2	4.3	5.1	5.2	5.3	6.1	6.2	6.3	6.4	7.1	7.2	7.3	7.4	8.1	8.2	8.3	9.1	9.2	9.3	9.4
◉	◉	◉	◉	◉	◉	◉	○	○		◉	◉	◉	◉	◉																				

Solid Carbide 4 Flute Knuckle Form Fine Pitch CutMaster Roughing End Mill

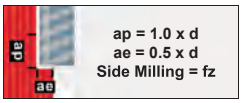
Maximum stock removal at high feed rates in profiling applications

P | mm | WORKS STD. | SOLID CARBIDE | TYPE UNI | ∅ d11 | 42° | Z 4 | ∅ h6 HB | HR | COATED

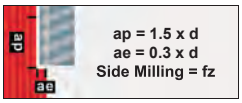
Diameter	Cutting Length	Overall Length	Shank Diameter	Code
6	13	57	6	03HE0600A
8	16	63	8	03HE0800A
10	22	72	10	03HE1000A
12	26	83	12	03HE1200A
16	32	92	16	03HE1600A
20	38	104	20	03HE2000A

Description	Code
Solid Carbide 4 Flute CutMaster Roughing End Mill Set	03HE0000A
THIS SET CONTAINS:	
6mm - 03HE0600A, 8mm - 03HE0800A, 10mm - 03HE1000A,	
12mm - 03HE1200A, 16mm - 03HE1600A	

CUTTING DATA



ap = 1.0 x d
ae = 0.5 x d
Side Milling = fz



ap = 1.5 x d
ae = 0.3 x d
Side Milling = fz

ap = 1.0 x d
ae = 1.0 x d
Slot Milling = fz x 0.7

◉ Recommended
○ Suitable

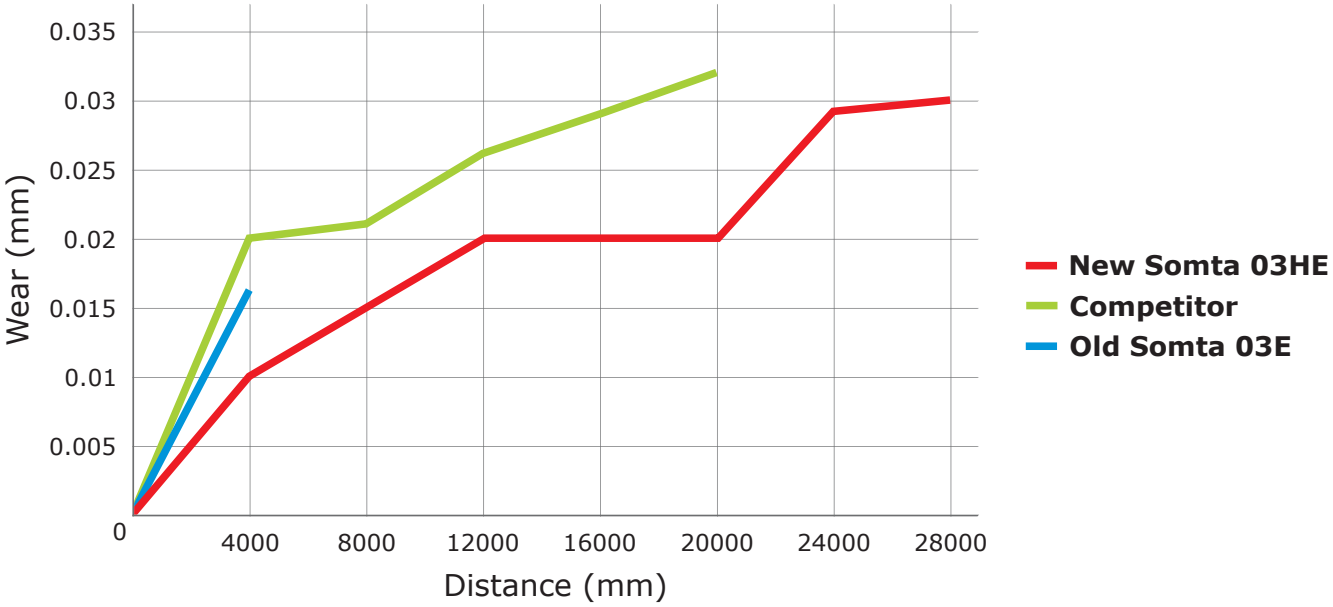
Material			Ø	6	8	10	12	16	20
			Vc m/min	fz (mm/tooth)	fz (mm/tooth)	fz (mm/tooth)	fz (mm/tooth)	fz (mm/tooth)	fz (mm/tooth)
P	◉ 1.1 Free Cutting Steel	< 120 HB	175	0.027-0.045	0.037-0.061	0.044-0.074	0.054-0.090	0.065-0.109	0.074-0.123
	◉ 1.2 Structural Steel	< 200 HB	165	0.027-0.045	0.037-0.061	0.044-0.074	0.054-0.090	0.065-0.109	0.074-0.123
	◉ 1.3 Plain Carbon Steel	< 250 HB	140	0.023-0.038	0.031-0.051	0.037-0.061	0.046-0.076	0.056-0.094	0.065-0.109
	◉ 1.4 Alloy Steel	< 250 HB	140	0.023-0.038	0.031-0.051	0.037-0.061	0.046-0.076	0.056-0.094	0.065-0.109
	◉ 1.5 Low Alloy Steel	250 - 350 HB	120	0.020-0.034	0.028-0.046	0.033-0.055	0.041-0.068	0.050-0.083	0.057-0.095
	◉ 1.6 Low Alloy Steel	> 350 HB	110	0.020-0.034	0.028-0.046	0.033-0.055	0.041-0.068	0.050-0.083	0.057-0.095
M	◉ 2.1 Free Machining Stainless Steel	< 250 HB	90	0.023-0.038	0.031-0.051	0.037-0.061	0.046-0.076	0.056-0.094	0.065-0.109
	○ 2.2 Austenitic Stainless Steel	< 320 HB	90	0.023-0.038	0.031-0.051	0.037-0.061	0.046-0.076	0.056-0.094	0.065-0.109
	○ 2.3 Ferritic and Martensitic Stainless Steel	< 300 HB	80	0.018-0.030	0.025-0.041	0.029-0.049	0.037-0.061	0.045-0.075	0.053-0.088
K	◉ 3.1 Lamellar Graphite Cast Iron	< 150 HB	140	0.027-0.045	0.037-0.061	0.044-0.074	0.054-0.090	0.065-0.109	0.074-0.123
	◉ 3.2 Lamellar Graphite Cast Iron	150 - 300 HB	115	0.018-0.030	0.025-0.041	0.029-0.049	0.037-0.061	0.045-0.075	0.053-0.088
	◉ 3.3 Nodular Graphite, Malleable Cast Iron	< 200 HB	125	0.023-0.038	0.031-0.051	0.037-0.061	0.046-0.076	0.056-0.094	0.065-0.109
	◉ 3.4 Nodular Graphite, Malleable Cast Iron	200 - 300 HB	115	0.018-0.030	0.025-0.041	0.029-0.049	0.037-0.061	0.045-0.075	0.053-0.088
Ti	◉ 4.1 Titanium unalloyed	< 200 HB	65	0.018-0.030	0.025-0.041	0.029-0.049	0.037-0.061	0.045-0.075	0.053-0.088

Parameters based on ideal conditions. Please adjust parameters accordingly to real applications.

TEST RESULTS

MAKING MANUFACTURING BETTER!

Carbide Roughing End Mill Distance / Wear



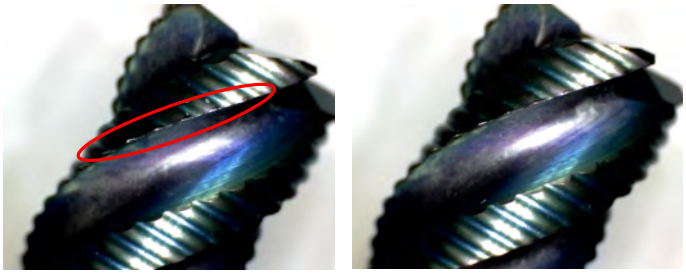
10mm Side Milling in M200 Alloy Steel using Coolant
ap = 1xd I ae = 0.5xd I Vc = 125m/min I Feed = 955mm/min

Old Somta 03E

Load 1-35/6 (spindle/axis load) Quiet on contact.
Good surface finish.
Chipped on Knuckle after 4 Meters.
Tool badly damaged at 8 Meters.
Load @ end 20-37/6 (spindle/axis load).

Competitor

Load 1-36/5 (spindle/axis load) Quiet on contact.
Good surface finish.
Slight chip on Knuckle after 4 Meters.
Increase in chipping after 12 Meters.
All 4 flutes chipped infront at 20 Meters.
Load @ end 50-41/4 (spindle/axis load).



New Somta 03HE

Load 1-34/4 (spindle/axis load) Quiet on contact.
Good surface finish.
Slight chip on Knuckle after 24 Meters.
Slight increase in chipping at 28 Meters.
Load @ end 70-37/4 (spindle/axis load).

shaping your dreams

SOMTA World Class Cutting Tools
OSG GROUP COMPANY

Manufacturers & Suppliers
of Drills, Reamers, End Mills,
Bore Cutters, Taps & Dies,
Toolbits, Solid Carbide Tooling,
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Custom Tools and
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SOMTA
World Class Cutting Tools
OSG GROUP COMPANY

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SABS ISO 9001
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