



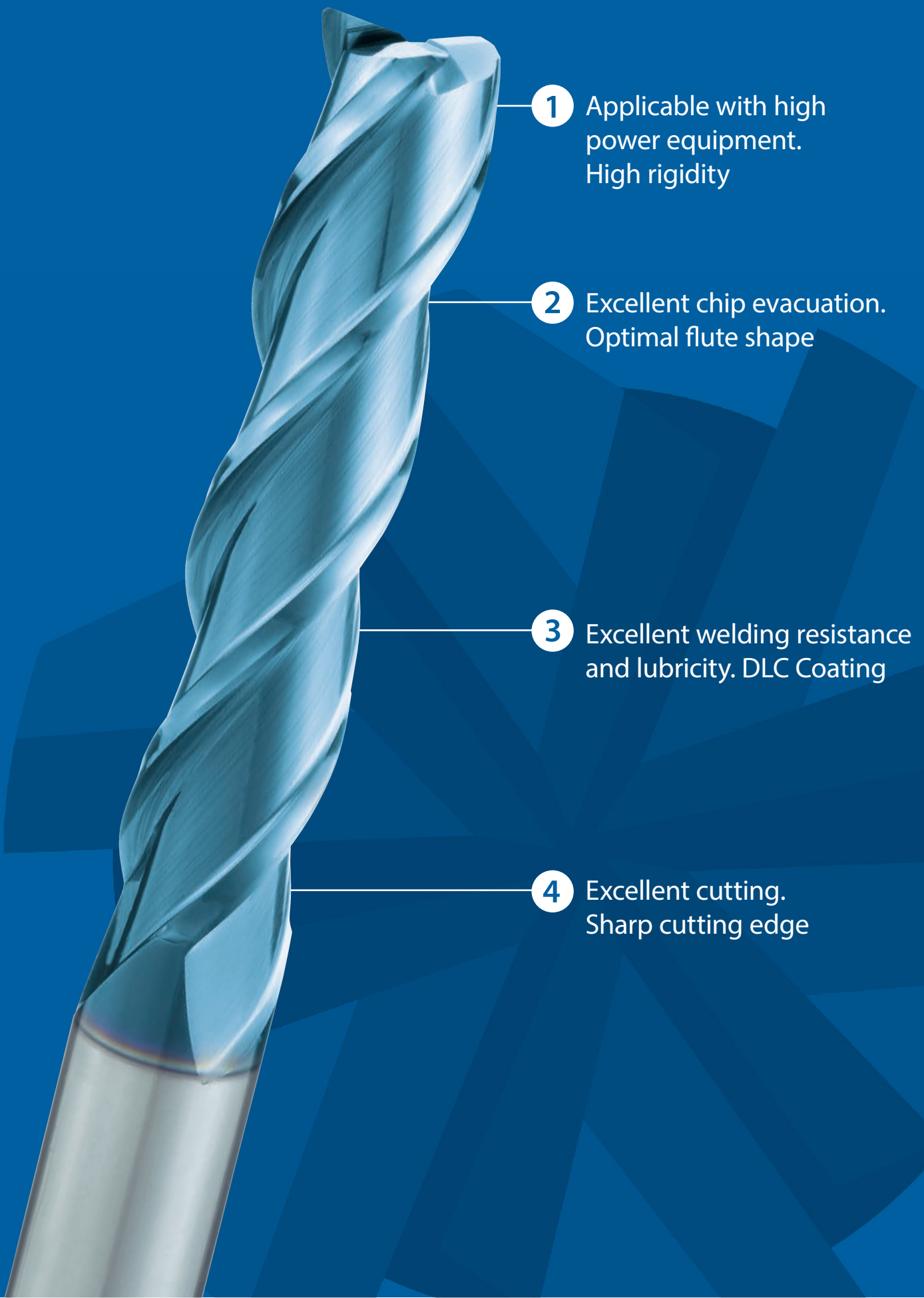
High speed end mills for aluminium alloys

AERO END MILL SERIES

Volume 4



KEY FEATURES: AERO SERIES



1 Applicable with high power equipment. High rigidity

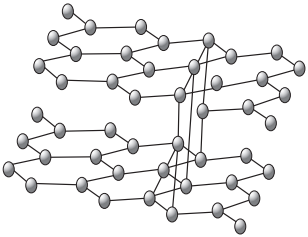
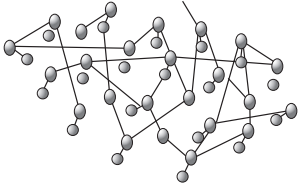
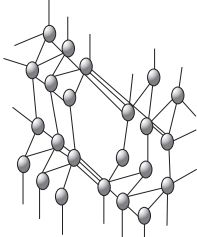
2 Excellent chip evacuation. Optimal flute shape

3 Excellent welding resistance and lubricity. DLC Coating

4 Excellent cutting. Sharp cutting edge

FOR AL ALLOYS DIAMOND LIKE CARBON COATING

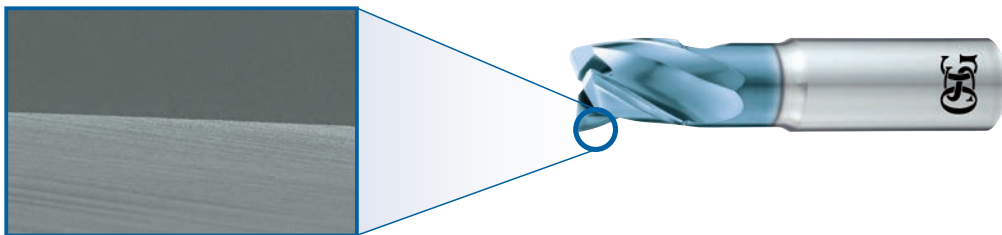
OSG's DLC coating gives shiny surface! This shiny & smooth surface optimises end mill performance particularly in aluminum alloys that require welding resistance and lubricity.

Graphite	DLC	Diamond
		
Crystal construction	Amorphous	Crystal construction

* Amorphous : no polycrystalline structure with free-grain boundaries.

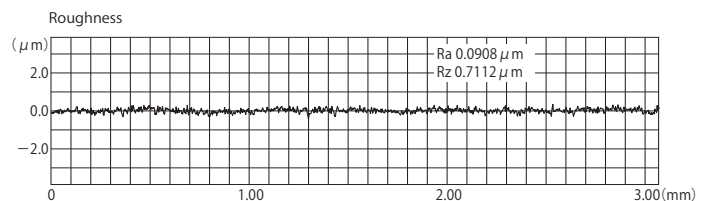
Thin coating layer (approx. 1µm)! Sharp cutting edge!

Smooth and superb surface finish!



High quality surface even in high speed feeding!

Tool	AERO-ETL Ø12XR1
Work Material	A7075
Cutting Speed	528m/min (14.000min ⁻¹)
Feed	4.000mm/min (0,095mm/t)
Depth of Cut	ap=45mm ae=0,15mm
M.R.R.	27 cm ³ /min



AERO Series

- DLC-AIR-EDS
- AERO-ETS
- AERO-O-ETS
- AERO-ETL
- AERO-EXTL
- AERO-LN-EDS
- AERO-LN-ETS

FOR AL ALLOYS DIAMOND LIKE CARBON COATING

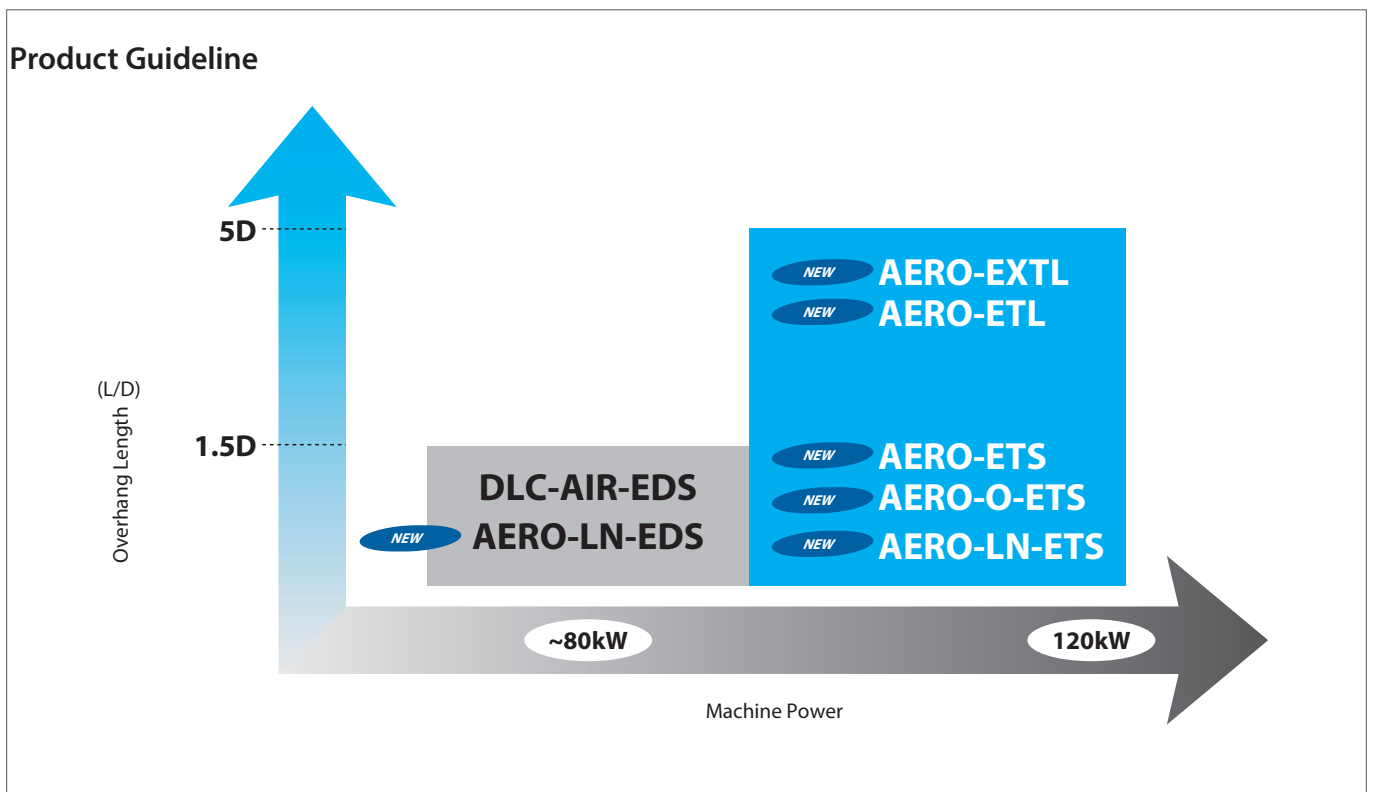
Astonishing chip evacuation with Ø25 diameter!

9.000 cm³/min chip evacuation

Tool	AERO-ETL Ø25xR3
Work Material	A7075
Cutting Speed	2.355m/min (30.000min ⁻¹)
Feed	36.000mm/min (0,4mm/t)
Depth of Cut	ap=10mm ae=25mm
Coolant	Water Soluble (External)
Machine	5-axis Machining Centers
Machine Power	120Kw



The Aero Series is perfect for high powered equipment over 80 kw



MACHINING DATA

Enables high efficiency milling for both roughing and finishing

Tool	AERO-ETL Ø25xR3	
Work Material	A7075	
Milling Method	Roughing	Finishing
Cutting Speed	1.413m/min (18.000 min ⁻¹)	1.884m/min (24.000 min ⁻¹)
Feed	18.000mm/min (0,33mm/t)	7.200mm/min (0,1mm/t)
Coolant	Mist (Through spindle mist)	
Machine	5-axis Machining Centers	



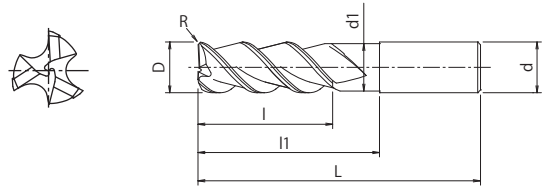
Finishing side milling by extra long flute length

Tool	AERO-EXTL Ø25xR3
Work Material	A7075
Cutting Speed	898m/min (14.300min ⁻¹)
Feed	6,435mm/min
Coolant	Water Soluble
Machine	5-axis Machining Centers



AERO-ETS

Milling | Solid carbide



- Carbide end mill with DLC coating
- For ultra high volume milling of aluminium alloys
- 3 flutes, short length of cut, also with corner radius



CARBIDE DLC 30° 0~0.02



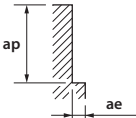
Milling | Solid carbide

EDP	Z	D	R	L	l	l1	d	d1
8533249	3	12	-	100	18	55	12	11
8533250	3	12	1	100	18	55	12	11
8533252	3	12	3	100	18	55	12	11
48238126	3	12	3	80	18	35	12	11
48238999	3	12	3	90	18	45	12	11
8533253	3	16	-	100	24	55	16	14,4
8533254	3	16	1	100	24	55	16	14,4
8533256	3	16	3	100	24	55	16	14,4
8533257	3	16	4	100	24	55	16	14,4
8533258	3	16	5	100	24	55	16	14,4
8533259	3	20	-	100	30	55	20	18
8533260	3	20	1	100	30	55	20	18
8533262	3	20	3	100	30	55	20	18
8533263	3	20	4	100	30	55	20	18
8533264	3	20	5	100	30	55	20	18
8533265	3	25	-	100	37,5	55	25	23
8533266	3	25	1	100	37,5	55	25	23
8533268	3	25	3	100	37,5	55	25	23
8533269	3	25	4	100	37,5	55	25	23
8533270	3	25	5	100	37,5	55	25	23

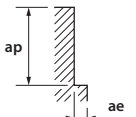
CUTTING CONDITIONS

Milling | Endmills | Cutting conditions

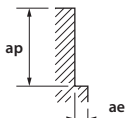
AERO-ETS

Aluminium alloy							
\emptyset	S (min^{-1})	F (mm/min)					
12	≤ 33.000	≤ 15.000					
16	≤ 33.000	≤ 20.000					
20	≤ 33.000	≤ 25.700					
25	≤ 33.000	≤ 32.600					
Max cutting depth			<table border="1"> <tr> <td>ap</td> <td>ae</td> </tr> <tr> <td>$\leq 0,4 Dc$</td> <td>1 Dc</td> </tr> </table>	ap	ae	$\leq 0,4 Dc$	1 Dc
ap	ae						
$\leq 0,4 Dc$	1 Dc						

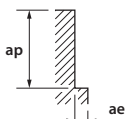
AERO-O-ETS

Aluminium alloy							
Vc	1000 ~ 3000 m/min						
\emptyset	S (min^{-1})	F (mm/min)					
12	≤ 33.000	≤ 25.700					
25	≤ 33.000	≤ 32.600					
Max cutting depth			<table border="1"> <tr> <td>ap</td> <td>ae</td> </tr> <tr> <td>$\leq 0,4 Dc$</td> <td>1 Dc</td> </tr> </table>	ap	ae	$\leq 0,4 Dc$	1 Dc
ap	ae						
$\leq 0,4 Dc$	1 Dc						

AERO-ETL

Aluminium alloy				
\emptyset	S (min^{-1})	F (mm/min)	ap (mm)	ae (mm)
12	≤ 14.000	≤ 4.000	≤ 45	$\leq 0,15$
16	≤ 14.000	≤ 5.000	≤ 45	$\leq 0,2$
20	≤ 14.000	≤ 6.000	≤ 45	$\leq 0,3$
Max cutting depth				

AERO-EXTL

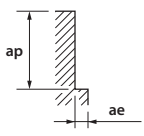
Aluminium alloy				
\emptyset	S (min^{-1})	F (mm/min)	ap (mm)	ae (mm)
20	≤ 14.000	≤ 6.000	≤ 95	$\leq 0,2$
Max cutting depth				



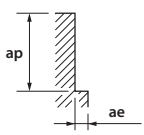
CUTTING CONDITIONS

Milling | Endmills | Cutting conditions

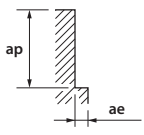
AERO-LN-ETS

Aluminium alloy							
\emptyset	S (min^{-1})	F (mm/min)					
16	≤ 33.000	≤ 20.000					
20	≤ 33.000	≤ 25.700					
25	≤ 33.000	≤ 32.600					
Max cutting depth			<table border="1"> <tr> <td>ap</td> <td>ae</td> </tr> <tr> <td>$\leq 0,2 D$</td> <td>$1 D$</td> </tr> </table>	ap	ae	$\leq 0,2 D$	$1 D$
ap	ae						
$\leq 0,2 D$	$1 D$						

AERO-LN-EDS

Aluminium alloy							
\emptyset	S (min^{-1})	F (mm/min)					
16	≤ 33.000	≤ 12.000					
20	≤ 33.000	≤ 15.000					
25	≤ 33.000	≤ 15.000					
Max cutting depth			<table border="1"> <tr> <td>ap</td> <td>ae</td> </tr> <tr> <td>$\leq 0,4 D$</td> <td>$0,6 D$</td> </tr> </table>	ap	ae	$\leq 0,4 D$	$0,6 D$
ap	ae						
$\leq 0,4 D$	$0,6 D$						

DLC-AIR-EDS

Aluminium alloy							
Vc	1000 ~ 3000 m/min						
\emptyset	S (min^{-1})	F (mm/min)					
12	33.000	≤ 9.100					
16	33.000	≤ 12.000					
20	33.000	≤ 15.000					
25	33.000	≤ 15.000					
Max cutting depth			<table border="1"> <tr> <td>ap</td> <td>ae</td> </tr> <tr> <td>$\leq 0,6 Dc$</td> <td>$1,0 Dc$</td> </tr> </table>	ap	ae	$\leq 0,6 Dc$	$1,0 Dc$
ap	ae						
$\leq 0,6 Dc$	$1,0 Dc$						



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shaping your dreams

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