



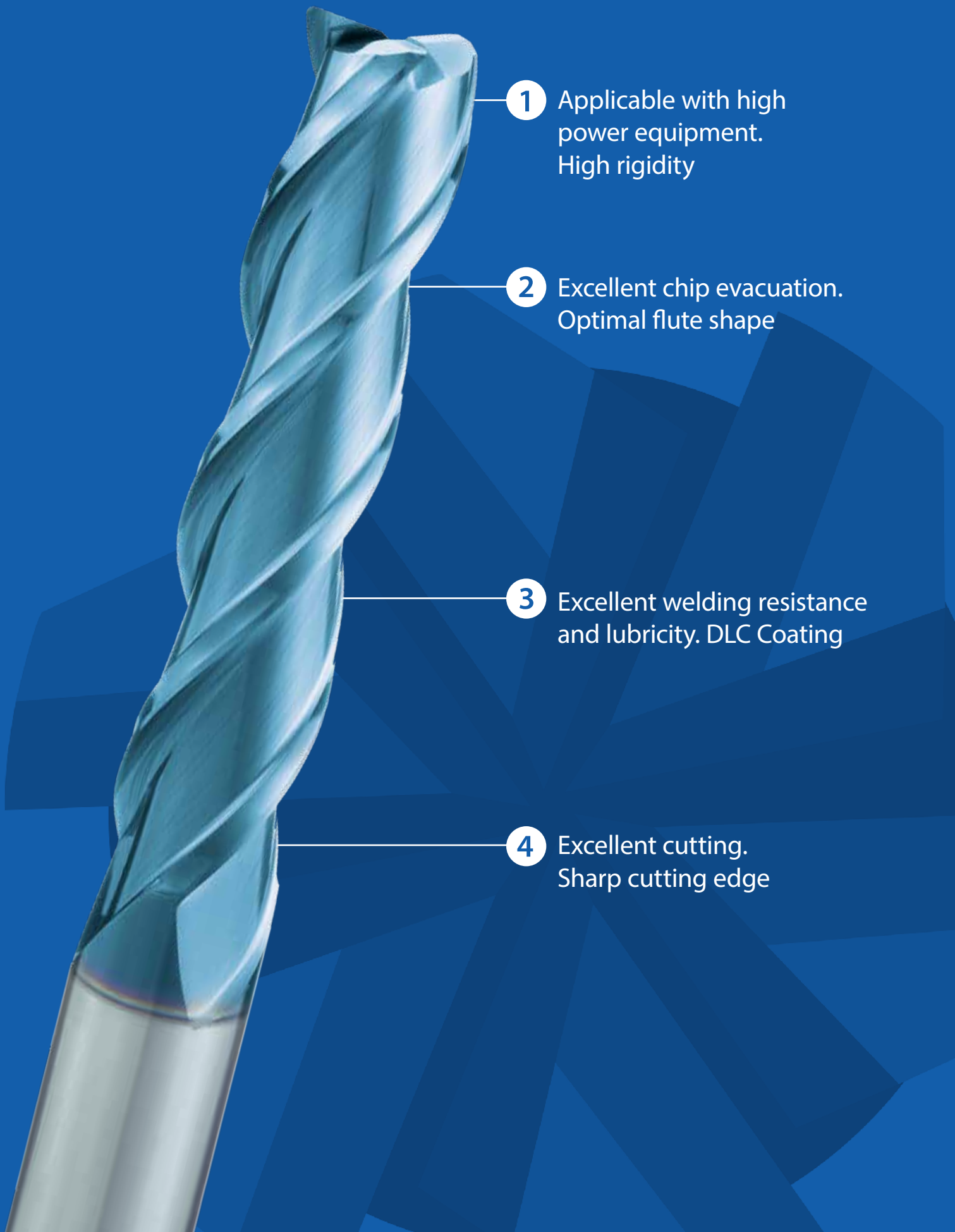
High speed end mills for aluminium alloys

AERO END MILL SERIES

Volume 4



KEY FEATURES: AERO SERIES



1 Applicable with high power equipment.
High rigidity

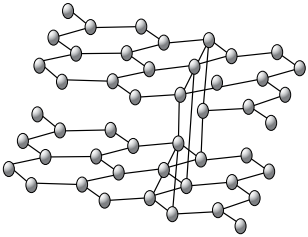
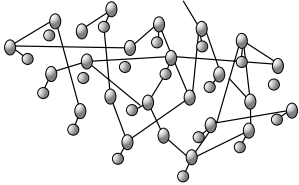
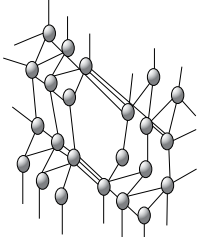
2 Excellent chip evacuation.
Optimal flute shape

3 Excellent welding resistance
and lubricity. DLC Coating

4 Excellent cutting.
Sharp cutting edge

FOR AL ALLOYS DIAMOND LIKE CARBON COATING

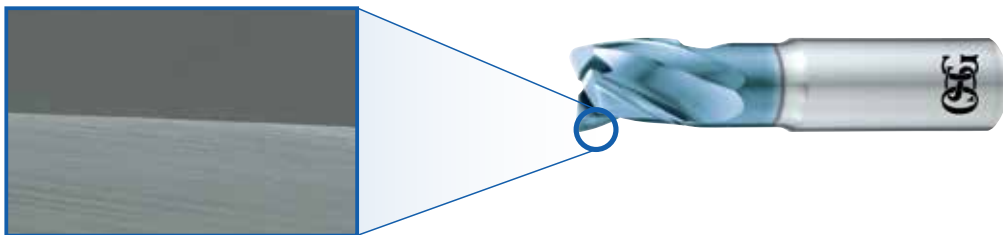
OSG's DLC coating gives shiny surface! This shiny & smooth surface optimises end mill performance particularly in aluminum alloys that require welding resistance and lubricity.

Graphite	DLC	Diamond
		
Crystal construction	Amorphous	Crystal construction

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

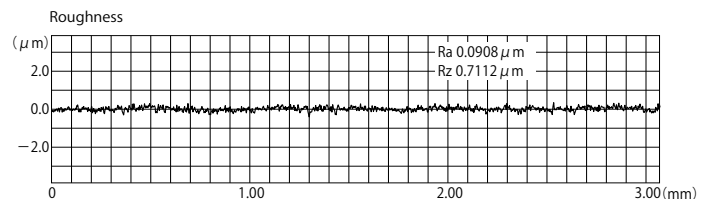
Thin coating layer (approx. 1µm)! Sharp cutting edge!

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

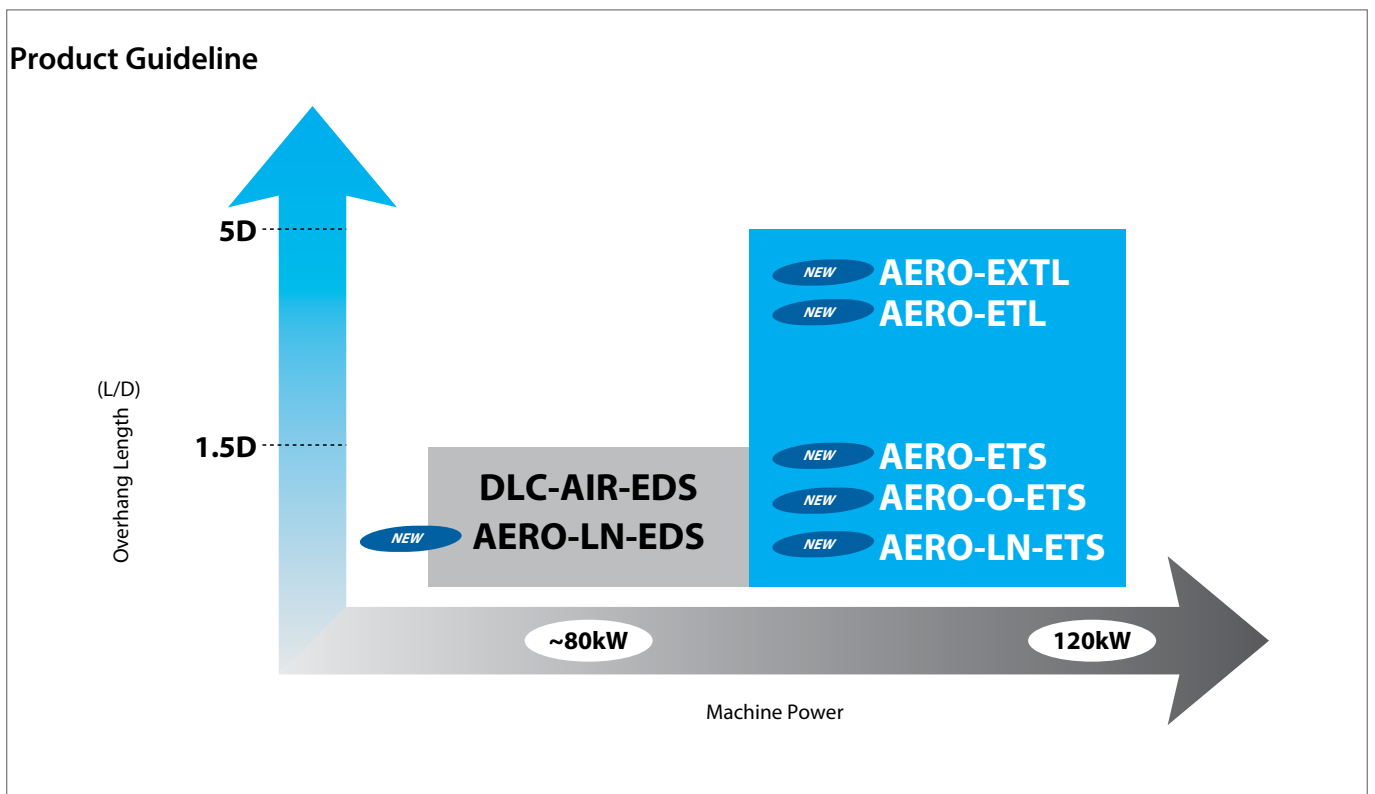
Astonishing chip evacuation with Ø25 diameter!

9.000 cm³/min chip evacuation

Tool	AERO-ETS 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



Enables high efficiency milling for both roughing and finishing

Tool	AERO-O-ETS 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	



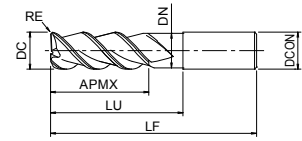
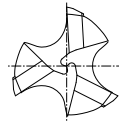
Finishing side milling by extra long flute length

Tool	AERO-EXTL Ø20xR3
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, corner radius



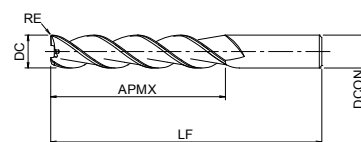
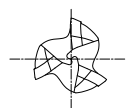
CARBIDE
DLC
30°
0~-0.02

Milling | Solid carbide

EDP	ZEFP	DC	RE	LU	LF	APMX	DCON	DN
8533249	3	12	-	55	100	18	12	11
8533250	3	12	1	55	100	18	12	11
48238126	3	12	3	35	80	18	12	11
48238999	3	12	3	45	90	18	12	11
8533252	3	12	3	55	100	18	12	11
8533253	3	16	-	55	100	24	16	14,4
8533254	3	16	1	55	100	24	16	14,4
8533256	3	16	3	55	100	24	16	14,4
8533257	3	16	4	55	100	24	16	14,4
8533258	3	16	5	55	100	24	16	14,4
8533259	3	20	-	55	100	30	20	18
8533260	3	20	1	55	100	30	20	18
8533262	3	20	3	55	100	30	20	18
8533263	3	20	4	55	100	30	20	18
8533264	3	20	5	55	100	30	20	18
8533265	3	25	-	55	100	37,5	25	23
8533266	3	25	1	55	100	37,5	25	23
8533268	3	25	3	55	100	37,5	25	23
8533269	3	25	4	55	100	37,5	25	23
8533270	3	25	5	55	100	37,5	25	23

AERO-ETL

Milling | Solid carbide



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



CARBIDE

DLC

35°

0~0.02

EDP	ZEFP	DC	RE	LF	APMX	DCON
8533350	3	12	-	110	50	12
8533351	3	12	1	110	50	12
8533353	3	12	3	110	50	12
8533354	3	12	4	110	50	12
8533355	3	16	-	110	50	16
8533356	3	16	1	110	50	16
8533358	3	16	3	110	50	16
8533359	3	16	4	110	50	16
8533360	3	16	5	110	50	16
8533361	3	20	-	110	50	20
8533362	3	20	1	110	50	20
8533364	3	20	3	110	50	20
8533365	3	20	4	110	50	20
8533366	3	20	5	110	50	20

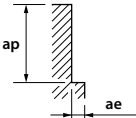
Milling | Solid carbide



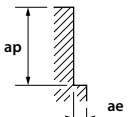
CUTTING CONDITIONS

Milling | Endmills | Cutting conditions

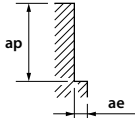
AERO-ETS

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						

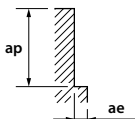
AERO-O-ETS

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				

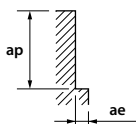
AERO-EXTL

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				

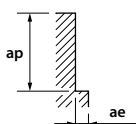
CUTTING CONDITIONS

Milling | Endmills | Cutting conditions

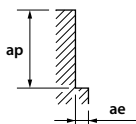
AERO-LN-ETS

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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