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Member IMC Group

NSA
New Solution Announcement

End mills
for Aluminium machining

Mega Alu Power Mega Alu Mega Alu LFF

part of Mega Tool

NSA
New Solution Announcement

OUR BEST SOLUTIONS

*FOR THE MACHINING OF **ALUMINIUM** AND **ALUMINIUM ALLOYS***

Mega Alu Power 797ALUCB

Mega Alu Power 797ALUCBIC

Mega Alu 797ALU

Mega Alu 797ALUIC

Mega Alu LFF 797ALULFFIC

part of MegaTool

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TOTAL PRODUCTION TIME -55%

Previous production time

21 MIN.

Current production time with

Mega Alu Power** and **Mega Alu LFF

9 MIN. 30”

AEROSPACE INDUSTRY
OUR SOLUTION

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*The **MegaTool end mills** for **Aluminium** machining have been developed to meet with the needs of aerospace industry customers,* ***whose requirement is to machine faster and in a safer way.***

Aerospace workpieces are most commonly machined with waterline methods, taking several small steps, ***from 3 to 5 mm each pass****. Such strategy is used both for roughing and finishing operations but it is very time consuming.*

Bearing in mind what the customers' target is, we started thinking of a new approach in machining and this resulted in a new strategy optimizing the process.

HERE IS OUR SOLUTION:

Mega Alu Power Mega Alu Mega Alu LFF

HYUNDAI WIA KH63

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TECHNICAL DATA

Table Size (length × width)	24.8×24.8
-	(630 × 630)
Max. load on table lbs (kg)	2,205 (1,000)
X-axis travel in(mm)	37.4 (950)
Y-axis travel in(mm)	32.5 (825)
Z-axis travel in(mm)	29.9 (760)
X,Y – rapid traverse	787 (20)
Z – rapid traverse	788 (20)
Spindle Taper	NT #50
Speed	4,500
Power	29.5/24.8 (22/18.5)
ATC Capacity (std)	40
ATC Capacity (opt)	60,90,120

MACHINED WORKPIECE

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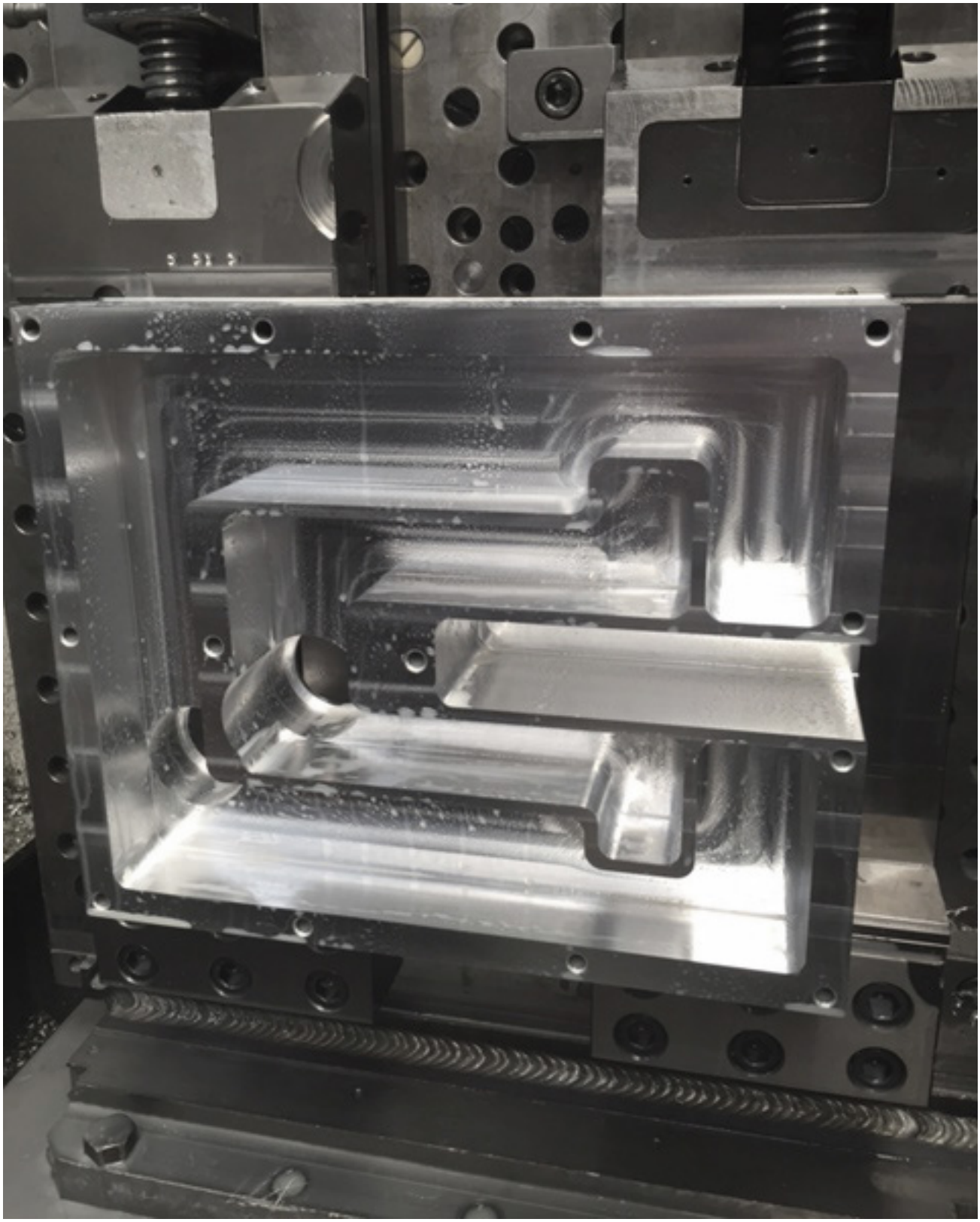
Material: AL7075



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STEP 1
ROUGHING

Mega Alu Power

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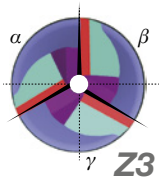
(AluPower Cod. 797ALUCBICR081600KM)

UOP MEGA ALU POWER Z3
D16 4xD IC



Z3
IRREGULAR
DIVISION

7 MIN. 30”
PRODUCTION TIME
-55%

TECHNICAL DATA

PARAMETERS	PREVIOUSLY	AluPower
A_p (mm)	18	35
A_e (mm)	11	16
V_f (mm/min)	2545	2000
F_z (mm)	0,11	0,09
S (rpm)	7500	7500
Q (cm3/min)	504	1120
Time (min)	16,5	7,4

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MEGA ALU POWER END MILLS CHARACTERISTICS AND BENEFITS

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Mega Alu Power

- *Noise reduction*
- *Resonance reduction*
- *Vibrationless* *(due to a unique geometry)*
- *High chip removal rate* *(overhang up to 5xD)*
- *Perfect control of chip evacuation*
  (thanks to the combination of mirror ground flutes and internal coolant feeding).
- *Less power requiredy*

ASYMMETRIC CHIPBREAKER

The bigger they are the more difficult it is to evacuate them.Thinner and shorter chips weigh less than standard chips, thus helping the coolant system to remove chips from the pocket, also in low coolant pressure conditions.
A clean pocket is an advantage for tools in order not to have chip jamming.

MEGA ALU POWER CHIP SIZE

STANDARD CHIP SIZE

Mega Alu Power

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STEP 2
FINISHING

Mega Alu LFF

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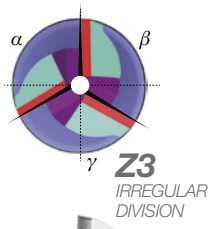
(AluLFF Cod. 797ALULFFICR021600KM)

UOP MEGA ALU LFF (Long Flute Finisher) Z3
D16 4xD IC



2 MIN.
PRODUCTION TIME
-55%

TECHNICAL DATA

PARAMETERS	PREVIOUSLY	AluLFF
A_p (mm)	18	35
A_e (mm)	0,05	0,05
V_f (mm/min)	4500	5000
F_z (mm)	0,2	0,22
S (rpm)	7500	7500
Time (min)	4,5	2,1

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MEGAALU LFF END MILLS CHARACTERISTICS AND BENEFITS

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Mega Alu LFF

- *Resonance reduction*
- *Vibrationless* *(even in complex tool paths)*
- *Highly stable process*
  even with an axial width of cut up to 6xD

MEGA ALU LFF CHIP SIZE

Mega Alu LFF

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NEW LFF FINISHING

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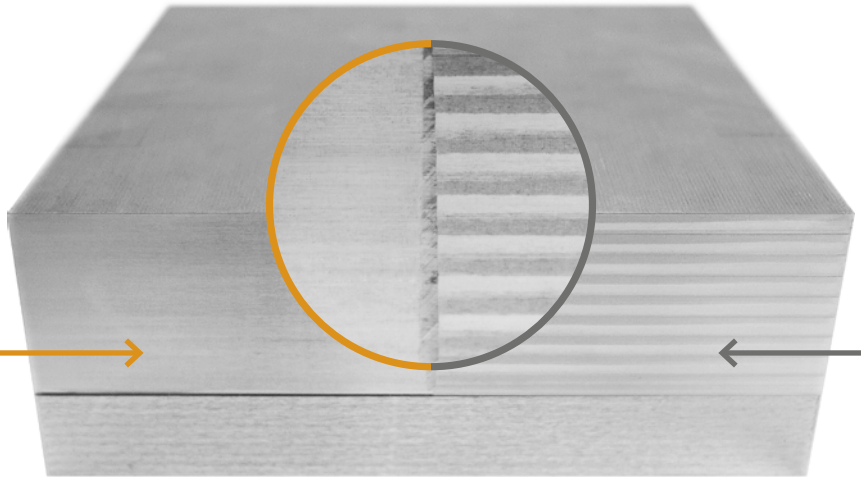

MEGA ALU LFF FINISHING

SAVING TIME:
1 step instead of several steps.
High finishing.
Very low bending risk.

TRADITIONAL WATERLINE MILLING

STRAIGHTNESS AND ROUGHNESS

STRAIGHTNESS

HEIGHT:
50MM

ROUGHNESS

EXECUTION PARAMETERS:
S12000 - F3000

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Mega Alu Power Mega Alu Mega Alu LFF part of Mega Group

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