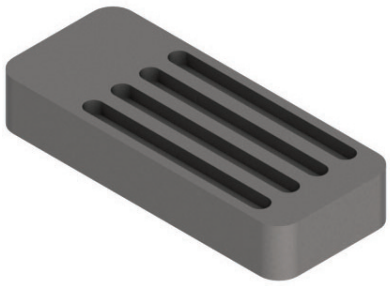
APPLICATION EXAMPLE

AEROSPACE



Material
Inconel 718 pre-treated to 150Kg

TOOL

HIGH FEED END MILL

DIXI 7702, Ø 3 mm x 9 x Ø 6 x 40, Z=2, XIDUR

CUTTING CONDITIONS

Machining	4 slots, 39 mm length, 5.5 mm depth
Preparation	Drilling Ø 3.5 mm x 5.4 mm both ends of slots
Machining strategy	Ramping
Machine	Vertical machining centre with BT40 12000 rpm spindle
Tool holder	ER20 precision collet holder
Lubricant	Soluble oil concentrated to 15%, cooling centre spindle through collet
Cutting data	Vc = 60 m/min (S = 6370 rev/min) Fz = 0.1 mm/rev (F = 1275 mm/min) Ap = 0.08 mm
Tool life	10 workpieces (40 slots = around 100 meters of machining = 80 minutes tool life)

RESULTS

The competitor's tool was a toric end mill Ø3.5 x 6 x Ø6 x 50 Z=4 R=0.5 with coating.
Tool life was between 1 and 3 workpieces, depending on hardness, homogenity of material.
Additional time was lost when tool broke and the cycle had to be restarted with a new tool.

With the **DIXI 7702** end mill, tool life is multiplied by 5 on average without any tool breakage.
Cycle time is reduced additionally by 15%.

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