

TSUNAMI

CARBIDE END MILL 鎢鋼津波刀

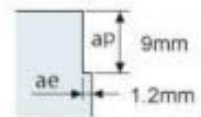
無堅不摧!
INVINCIBLE!

談笑間 · 灰飛煙滅

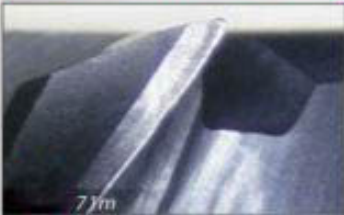
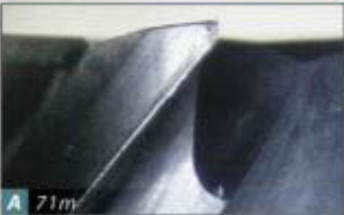






實際加工研究 Case Study

铣刀尺寸: $\varnothing 6 \times \varnothing 6 \times 16 \times 50L$ 4刃平刀
 工件材質: SUS304
 主軸轉速: 4,800 r.p.m.
 切削速度: 90.5 m/min
 進給速度: 1,920 mm/min
 每刃進給: 0.1 mm/刃
 加工方式: 側銑
 切削油劑: 水油
 加工深度:
 $ap = 9\text{mm}$ (1.5D)
 $ae = 1.2\text{mm}$ (0.2D)
 金屬移除率: 20,736 mm³/min

Cutter: $\varnothing 6 \times \varnothing 6 \times 16 \times 50L$ 4 Flutes Square
 Work Material: SUS304
 Spindle Revolution: 4,800 r.p.m.
 Cutting Speed: 90.5 m/min
 Feed Rate: 1,920 mm/min
 Feed Per Tooth: 0.1 mm/tooth
 Milling Method: Side Milling
 Coolant: Wet Cut
 Depth of Cut:
 $ap = 9\text{mm}$ (1.5D)
 $ae = 1.2\text{mm}$ (0.2D)
 Metal Removal Rate: 20,736 mm³/min



SUS304側銑磨耗比較 Comparison of Wear in SUS304

津波刀 GEMtool Tsunami	A日本他社不鏽鋼專用刀 Brand from Japan	B台灣他社不鏽鋼專用刀 Brand from Taiwan	
 71m	 A 71m	 B 71m	加工米數: 71m Milling Length: 71m 移除量: 720,000 mm ³ M.R.V.: 720,000 mm ³
 106m	 A 106m	 B 106m	加工米數: 106m Milling Length: 106m 移除量: 1,080,000 mm ³ M.R.V.: 1,080,000 mm ³
	加工米數: 339m Milling Length: 106m 移除量: 3,649,536 mm ³ M.R.V.: 3,649,536 mm ³		 津波刀加工表面 Working surface by Tsunami

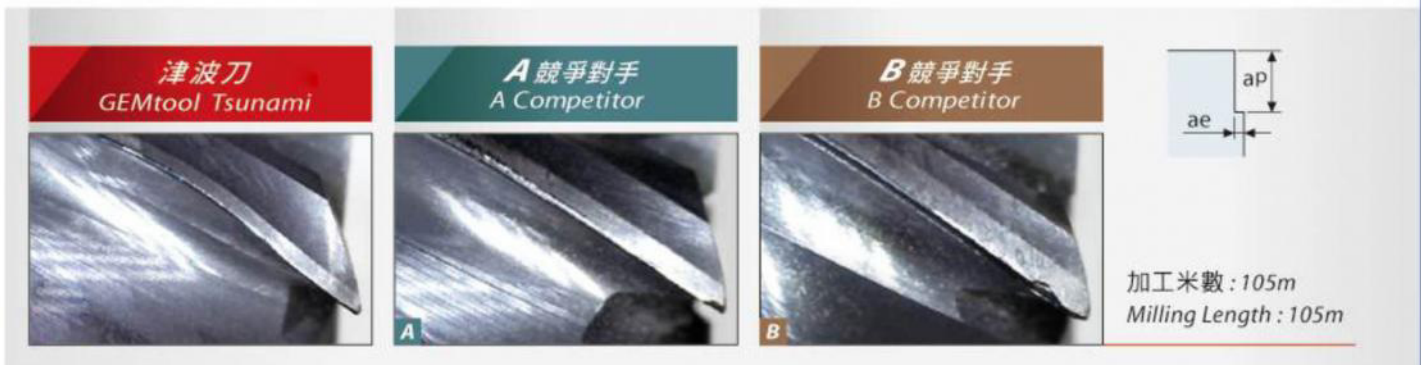
S50C側銑磨耗比較 Comparison of Wear in S50C

銑刀尺寸: $\varnothing 6 \times \varnothing 6 \times 15 \times 50L$ 4刃平刀
 主軸轉速: 6,900 r.p.m.
 切削速度: 130 m/min
 進給速度: 1,500 mm/min
 加工方式: 側銑
 切削油劑: 吹氣
 加工深度:
 $ap=9\text{mm}$ (1.5D)
 $ae=1.2\text{mm}$ (0.2D)
 金屬移除率: 16,200 mm³/min

Cutter: $\varnothing 6 \times \varnothing 6 \times 15 \times 50L$ 4 Flutes Square
 Spindle Revolution: 6,900 r.p.m.
 Cutting Speed: 130 m/min
 Feed Rate: 1,500 mm/min
 Milling Method: Side Milling
 Coolant: Air Cut
 Depth of Cut:
 $ap = 9\text{mm}$ (1.5D)
 $ae = 1.2\text{mm}$ (0.2D)
 Metal Removal Rate: 16,200 mm³/min

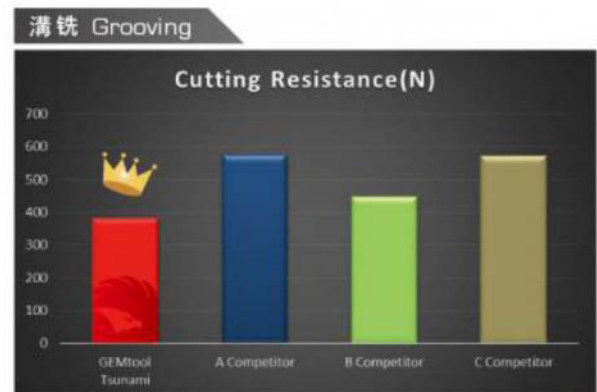
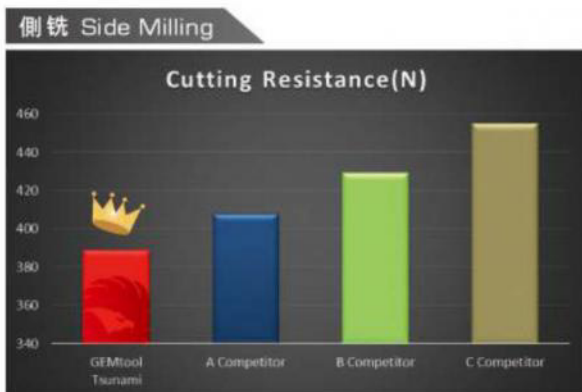


津波刀加工表面
Working surface by Tsunami



SUS304切削阻力比較 Comparison of Cutting Resistance in SUS304

銑刀 Cutter	加工方式 Milling Method	切削速度 Vc [m/min]	轉速 S [rpm]	進給 F [mm/min]	切深 ap [mm]	切寬 ae [mm]	金屬移除率 MRR [cc/min]	切削抗力 Cutting Resistance[N]
聖鈺鎢鋼津波刀 GEMtool Tsunami	側銑 Side	90.4	4800	950	9	1.2	10.3	388.5
	溝銑 Grooving	49.9	2650	420	3	6	7.6	378.5
A 競爭對手 A Competitor	側銑 Side	90.4	4800	950	9	1.2	10.3	407.7
	溝銑 Grooving	49.9	2650	420	3	6	7.6	574.1
B 競爭對手 B Competitor	側銑 Side	90.4	4800	950	9	1.2	10.3	428.9
	溝銑 Grooving	49.9	2650	420	3	6	7.6	444.3
C 競爭對手 C Competitor	側銑 Side	90.4	4800	950	9	1.2	10.3	454.9
	溝銑 Grooving	49.9	2650	420	3	6	7.6	570.8



■ $\varnothing 6 \times 50L \times 4$ 刃
 $\varnothing 6 \times 50L \times 4$ flutes
 ■ 工件材質: SUS304
 Work Material: SUS304