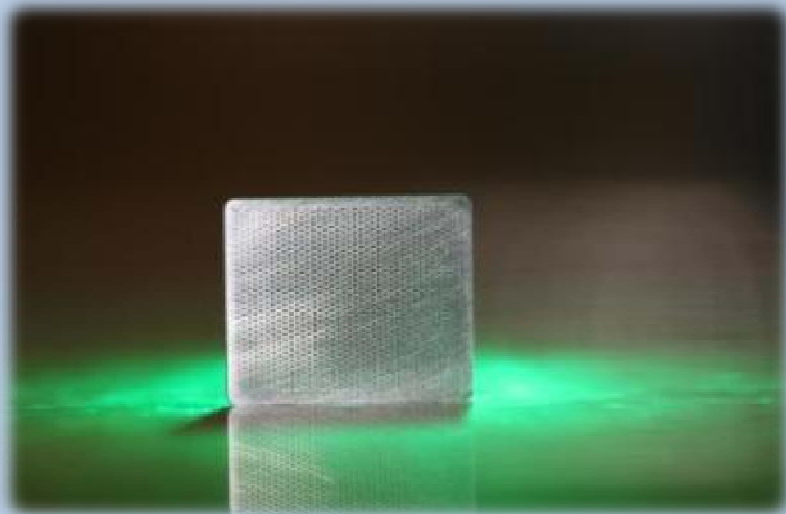


V22 Micro Drilling

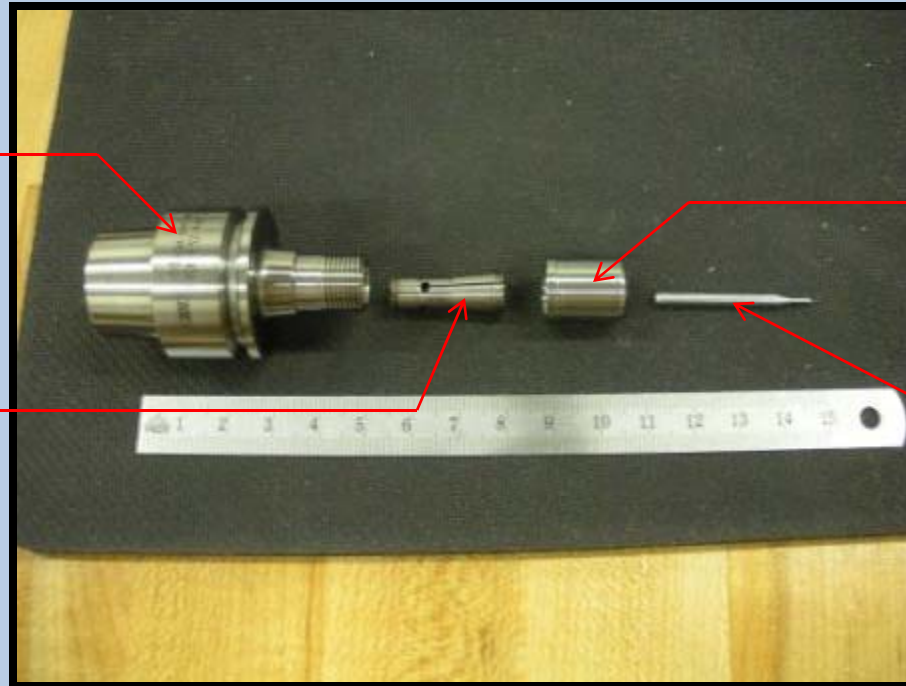
For 0.100mm \varnothing & 0.050mm \varnothing Holes



V22 Micro Drilling

BIG "Mega Micro"
collet chuck for
HSK-32E

BIG "micro" collet
< (0.001mm runout)



BIG precision "micro"
nut

Recommended micro drills:
- Titex
- Guhring
- Union Tool

Tooling Set-up

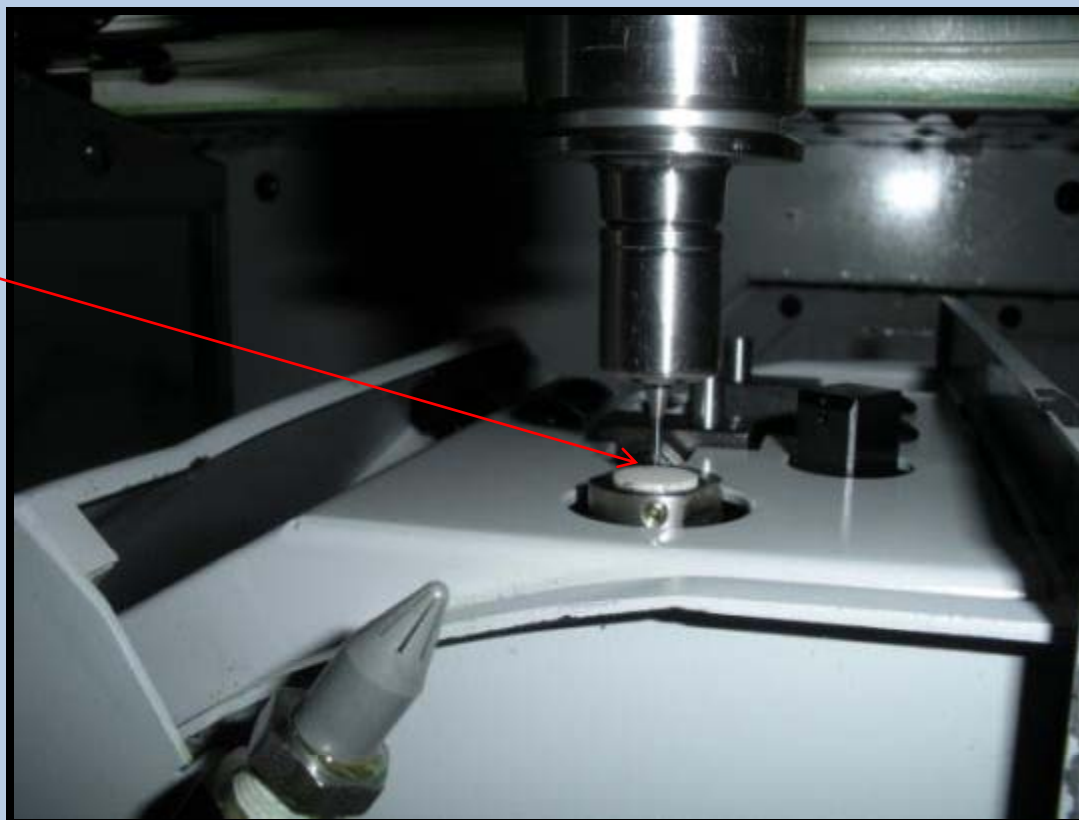
V22 Micro Drilling



Tooling Assembly

V22 Micro Drilling

0.050mmØ
micro drill
(Union Tool)



Tooling Setting
(using Hybrid ATLM)

G65P9602U60.H1F1

V22 Micro Drilling



Sphinx
135° Tip

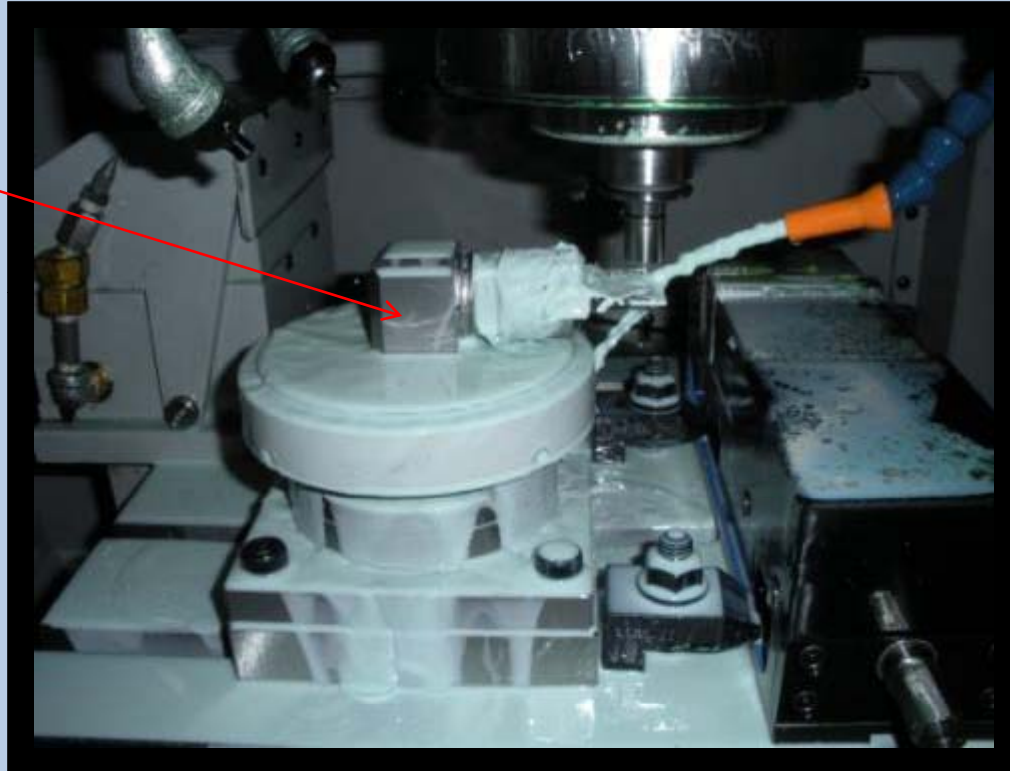


Spot Drilling

V22 Micro Drilling

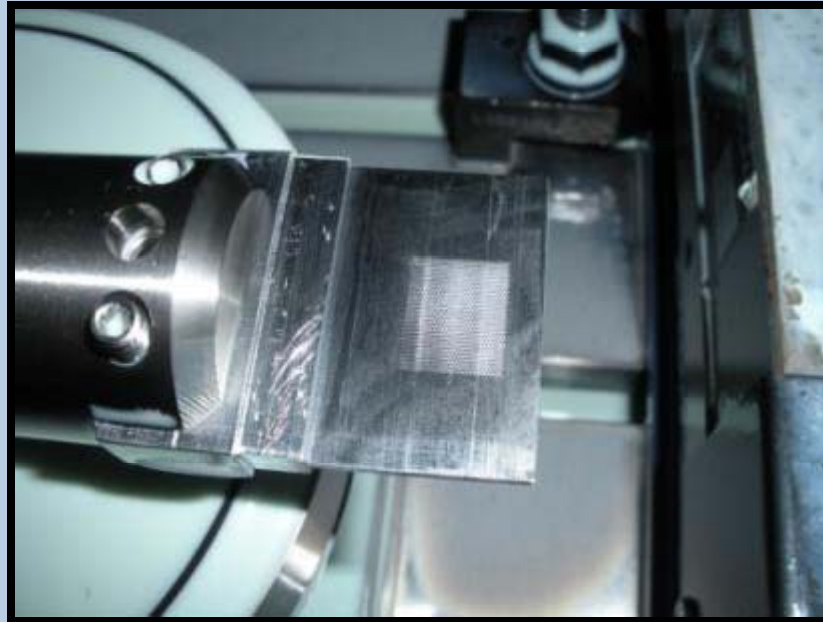
Erowa Compact
Combi / Right Angle

Simple on and off
chucking of workpiece.
Ideal for in process
inspection



Part Set-up

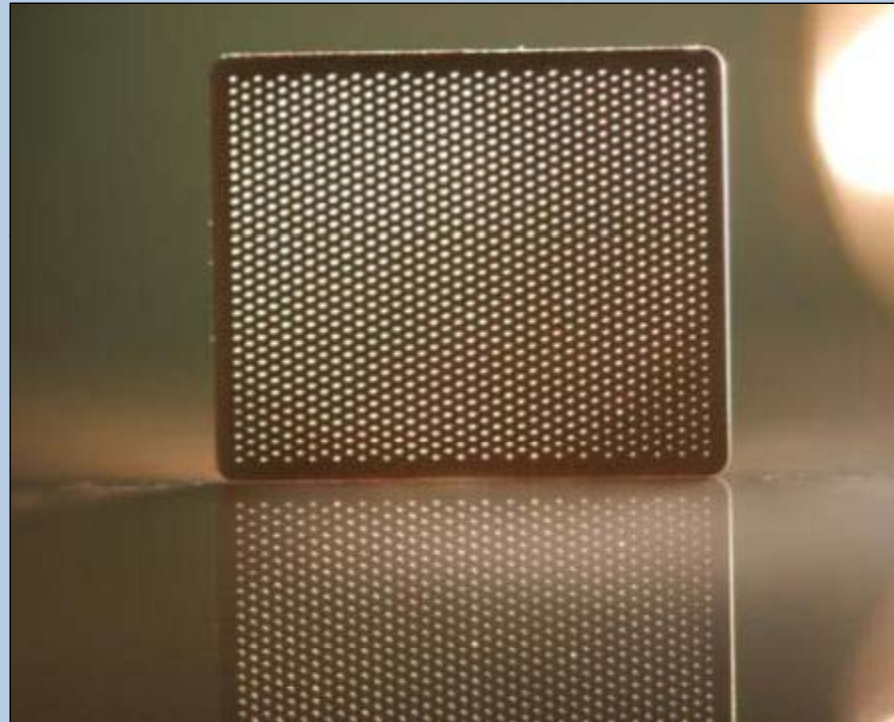
V22 Micro Drilling



Part Set-up

V22 Micro Drilling

100 $\mu\text{m}\varnothing$ holes (x1229)



(Part size: 10.100mm x 12.250mm)

V22 Micro Drilling

100 μ m \emptyset holes

Process Notes

Material: 6061 Al

Thickness: .50mm (5:1 aspect ratio)

Coolant: Flood coolant / Hangsterfer's S555

Number of Holes: 1229

Number of drills: 1 (Titex, 0.100mm x .80mm flute length)

Cycle time per hole:

Spot drilling – 0.3 seconds (9 min) / S40000 / G81 Z-.022 R.25 F150. (mm)

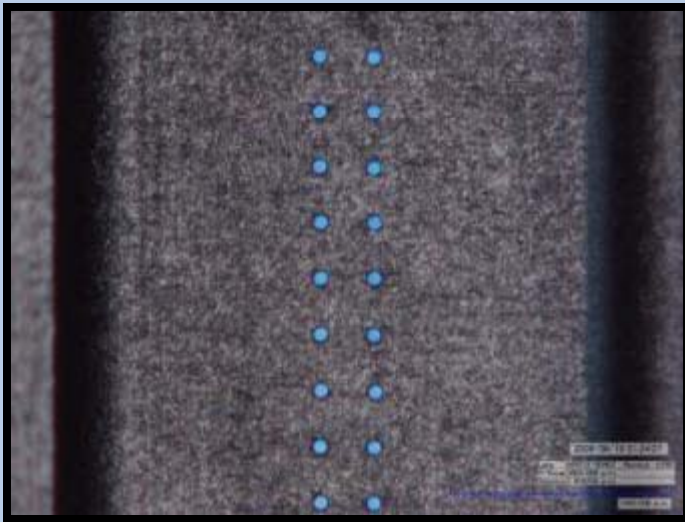
Drilling – 22 seconds (8hrs) / S40000 / G83 Z-.7 R.25 Q.012 F200. (mm)

Feed amount per peck: 0.012mm

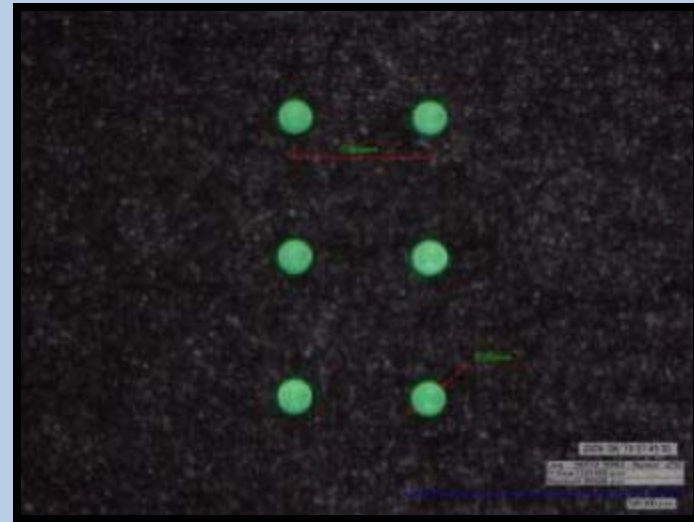
Feed rate per revolution: 0.005mm (200mm/min @40000 rpm)

V22 Micro Drilling

50 $\mu\text{m}\varnothing$ holes (x55)

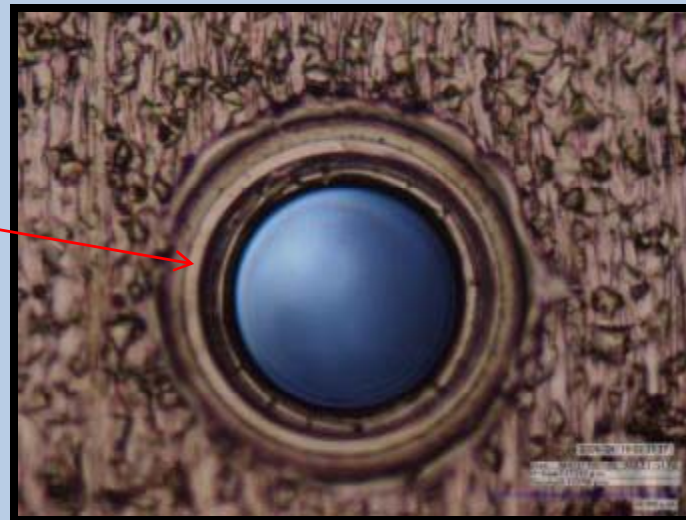


100x



250x

Spotting drill \varnothing
(+0.007mm / side)



1750x

V22 Micro Drilling

50 μ m \varnothing holes (x55)

Process Notes

Material: 303 Stainless Steel

Thickness: 0.50mm (**10:1** aspect ratio)

Coolant: Flood coolant / Hangsterfer's S555

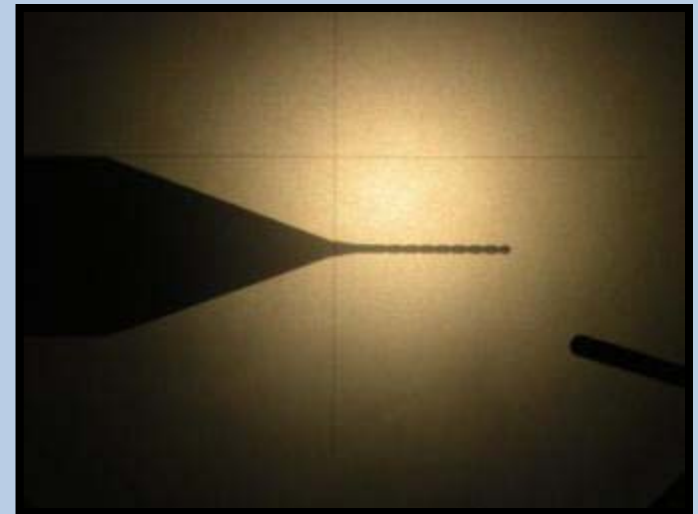
Number of Holes: 55 holes per drill

Type of drill: 1 (Union Tool, 0.050mm x .90mm flute length)

Drilling Cycle Information:

Spot drilling – S34000 / G81 Z-.017 R.25 F75. (mm)

Drilling – S38000 / G83 Z-.7 R.10 Q.003 F10. (mm)



Thank you

John Bradford
6/18/09