Precision milled step stencil foils

Mechanically machined to micron tolerances

Datum supplies customized micro-profiled sheets and mounted foils ready to be laser cut into multilevel step stencils.

Offering significantly improved levels of positional accuracy, surface finish and transition control to open new opportunities for SMT multilevel stencils (steps), 3D Epoxy stencils, reservoir stencils and 2 print stencils.

Datum micro-profiling produces machined steps into the foil with the following benefits critical to the SMT process.

- Depth accuracy within 5µm.
- Complete edge control ensures a consistent angle and radius allowing a tighter keep-out zone.
- A more gradual transition in stepped areas can extend squeegee life and stop paste build up within the transition.
- Using fiducials and camera guided positioning provides the same level of accuracy on both sides of a stencil.

Datum Micro-profile

125 µm down to 50 µm

125 µm

50 µm

Key Attributes

Method of production	Etching	Welding	Machining
Accuracy	+/-10% (variable)	Material Dependent	+/-5% (consistent)
Roughness	Ra >0.20µm	Material Dependent	Ra <0.20µm
Transition	Uncontrolled	90° steps.	Controlled & Burr Free
Process	Hazardous	Clean	Clean
Delivery	24-48 hours	24-48 hours	24-48 hours
X & Y Repeatability	Variable	<10µm	<8µm
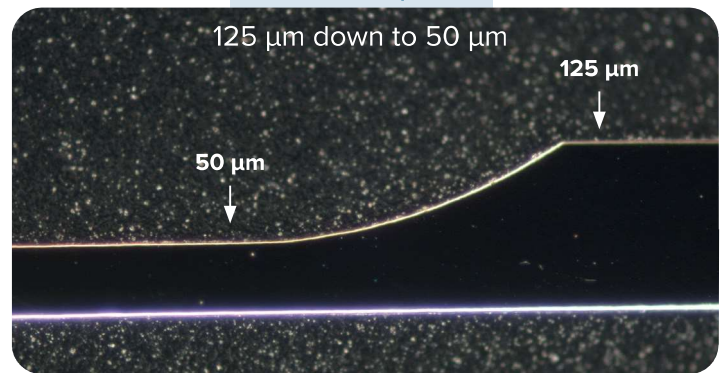
Datum Micro-profile Capability

Dimensional capacity	mm	Inch
Minimum floor thickness*	0.05mm	0.002"
Maximum machined area dimensions**	600 x 900mm	23.6" x 35.4"

Tolerance and surface finish		
Thickness of the milled area	+/- 5µm	+/- 0.0002"
Surface finish (Ra)	< 0.20µm	

Other	
Steps/cavities on both sides of the stencil?	Yes
Preferred file format ***	DXF

* Thinner available but not guaranteed
** Depends on gauge
*** Potential processing fee for other formats or where excessive CAD work is required

The data says yes

www.datumalloys.com