Datum Data Sheet
Datum Stepped Foils US

© Datum Alloys Ltd 2025

Micron Precision Controlled Transitions Fast Delivery

Datum supplies customised micro-profiled sheet foils ready to be laser cut into stencils.

Offering significantly improved levels of positional accuracy, surface finish and transition control for small geometries, smooth squeegee movement and better paste roll.

Micro Milling

Datum produce multi-level, micro-machined step stencil foils in one continuous operation creating stepped stencils without distortion or burrs. Micro-Milling is the most flexible stepping method, able to create unlimited shapes, patterns, wall profiles and cavities.

Benefits to the SMT Process:

- Accuracy within +/- 15µm >80% of milled foils are within 10µm. All milled foils are externally verified with our certified CMM. Reduced keep out zone, complete edge control ensures a consistent step angle and radius allowing apertures to be designed closer to steps and pockets.
- A more gradual transition in stepped areas can extend the life of the squeegee and stop paste build up within the transition.
- Surface finish approaching or the same as virgin cold roll stencil materials. Guaranteed < 0.50 µm but typically < 0.30 µm.

These features reduce variability within the print process and help deliver certainty. Micro Milling is the most precise method of creating stencils with multiple steps, or stencils that need contact side relief for board snuggers or labels.

Datum Micro-Profile Capability

Dimensional Capability	mm	Inch
Max. material gauge	no max.	no max.
Min. floor thickness*	0.05mm	0.002”
Max. sheet dimensions	700 x 1,000mm	27” x 39”
Max. machined area dimensions**	600 x 900mm	23.6” x 35.4”

Dimension Tolerance & Surface Finish		
Thickness of the milled area	+/- 15µm CMM Verified	+/- 0.00059”
Surface finish (Ra)	< 0.50µm	

Other	
Can be machined pre-mounted?	Yes
Steps/cavities on both sides of the stencil?	Yes
Preferred file format ***	DXF

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

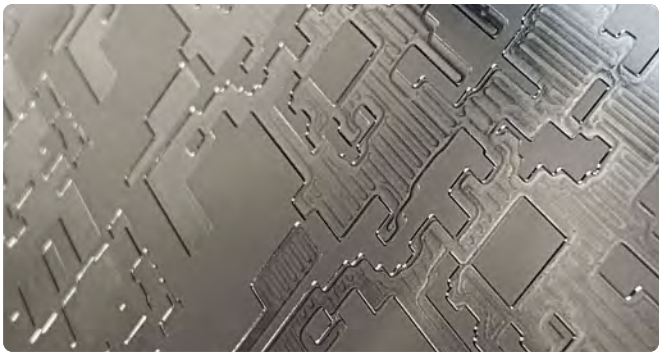
UK: +44 (0) 1548 855 900
Email: uk.sales@datumalloys.com
US: +1 607 239 6274
Email: us.sales@datumalloys.com
Singapore: +65 3157 0394
Email: sg.sales@datumalloys.com

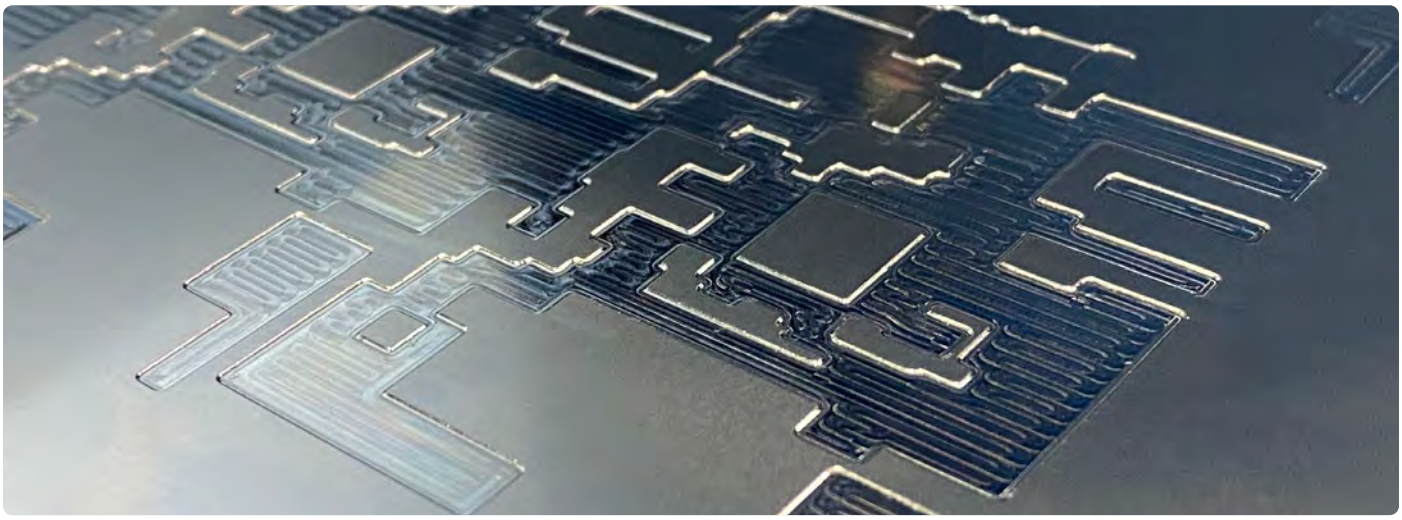
Datum Data Sheet
Steps, Pockets & Cavities

© Datum Alloys Ltd 2025

Milling Production:

Specifications	Data
Accuracy	≤15µm (CMM Verified)
Roughness	Ra <0.50 µm
Transition	Controlled & burr free
Process	Clean
Delivery	24-48 hours

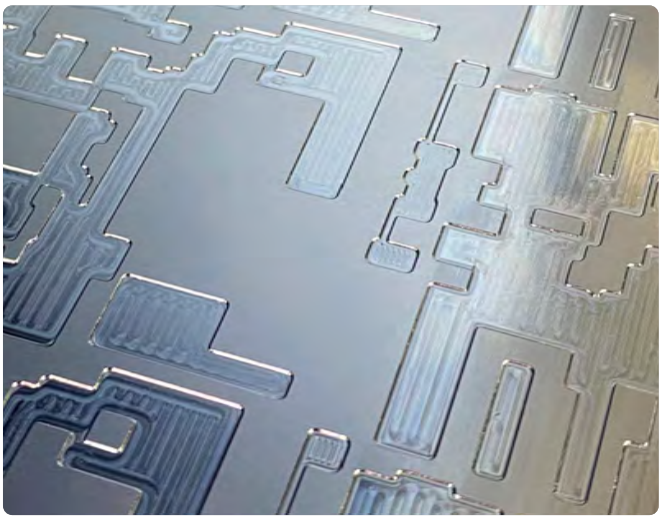




A Fast Changing Market

The demand for smaller and smaller electro- mechanical components and Printed Circuit Boards (PCBs) is increasing. At the same time there is a requirement for a larger number of different sized components on a circuit board requiring new technology to maintain manufacturing efficiency.

Datum's capability to produce precision steps, pockets and cavities on a wide range of thin sheets and foils gives you the ability to deliver on a fast changing market requirement.



UK: +44 (0) 1548 855 900
Email: uk.sales@datumalloys.com
US: +1 607 239 6274
Email: us.sales@datumalloys.com
Singapore: +65 3157 0394
Email: sg.sales@datumalloys.com