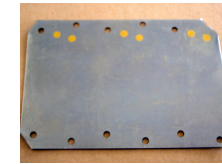




« TOOLING-FREE » SPOT COATING PROCESS

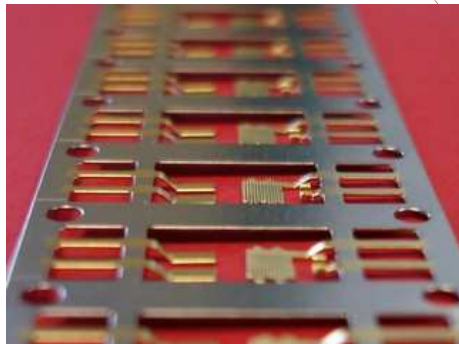
COATINGS WHICH
REDUCE METAL



GEOMETRIC PRECISION WHICH
MEETS THE MOST DEMANDING
REQUIREMENTS

PRINCIPAL CHARACTERISTICS OF THE PROCESS:

- ▶ Precisions of the order of ± 0.1 mm.
- ▶ Coating surfaces with either **simple** or **complex surface geometries**, 2D or 3D.
- ▶ Coating which is applicable to both **pre-formed** or **pre-cut** components, on **one face** or on **two faces**.
- ▶ Production flexibility suited to the creation of both **prototype components** and **small and medium volume runs**.
- ▶ **No investment** in complex tooling before production of first-off components can begin
- ▶ **Highly competitive** conditions for production.



PEM

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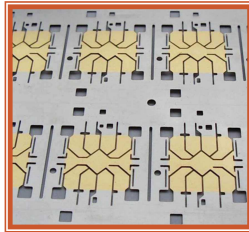
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TOOLING-FREE SPOT PROCESS

A SPOT COATING PROCESS WHICH COMPLEMENTS THE EXISTING PROCESS.

For a number of years PEM has had the capability to apply silver or gold coatings as spots on pre-formed or pre-cut strips. This process has been highly successful in the production of high volume components, thanks in particular to the savings in metals which result from it.

This process, however, requires complex tooling to be designed and produced for every product. Such tooling represents a significant investment which is not appropriate for small and medium volume runs and results in significant lead times between orders and initial production.



In order to supplement its technology, and in the context of its continuous endeavours to improve productivity, PEM has developed a new spot coating process, a process which requires no tooling.

SIGNIFICANTLY IMPROVED COMPETITIVENESS FOR SMALL AND MEDIUM VOLUME RUNS.

A. In the design of surfaces to be coated.

The selectivity of the technology used lends itself to coating surface designs which are of complex shape, including in 3D. Component designers can therefore optimise surfaces to be coated with the aim of reducing the levels of precious metals consumed to a minimum.

The minimum surface area of a face which at present it is not possible to go below is 0.250 mm².

B. In the choice of coatings.

In addition to this technology being highly competitive for precious metal coatings, due to the savings made in the consumption of metals, it is also of great interest because of the ability to create sub-layers on functional spot areas only and to create multi-spot / multi-coating products.

By way of illustration, for components which are bent during assembly operations after being coated, a nickel sub-layer only beneath the gold or silver spot avoids problems associated with the poor ductility of nickel. In the same way it is now possible to form a gold spot and tin spot on the same component.

C. In the prototype creation stage.

Since it uses no special tooling the process can be implemented immediately, so that the creation of your prototypes is greatly facilitated. Any change in the design of surfaces to be coated can be incorporated immediately and several designs can be tested in the same prototype batch.

D. In the production phase.

This highly flexible tooling-free spot process means that times required for changing product lines are reduced and thus ensures excellent service for the customer without any significant reduction in productivity being observed as a result. The supply of component drawings in dxf or dwg format can, in addition, optimise product line changeover costs.



Production resources designed to meet the most demanding requirements.

Process Technical Characteristics

Strip dimensions	Width	10 to 70 mm
	Thickness	0.07 to 0.8 mm
Applicable coatings	Sub-layer	Copper Nickel
	Final layer	Tin Nickel Silver Gold Palladium
Surface characteristics	Min.Surface	0.250 mm ²
	Geometry	As 2D As 3D External face

This process can be a source of **significantly improved productivity**. Please feel free to contact us for help in finding ways of converting components that are currently processed in the form of tracks to spotted surfaces or even pre-formed strips (before being cut out).

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