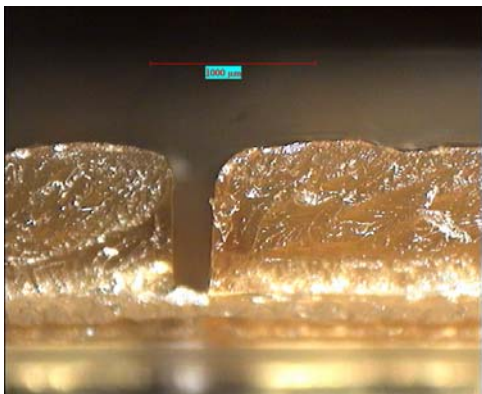


Printing of 3Dimensional Structures

Most people think of printing in terms of the graphic two dimensional image that it produces. However modern industrial print platforms combined with inkjet technology opens up the third dimension and a myriad of applications.

Direct write Patterning

Patterning Technologies Limited has used its know-how and expertise of integrating all the elements of inkjet printing to create three dimensional printed structures. Inkjet printers are digitally driven and quite capable of the accuracy and repeatability to be able to precisely print layer on layer over a number of passes.



Printing in 3 Dimensions

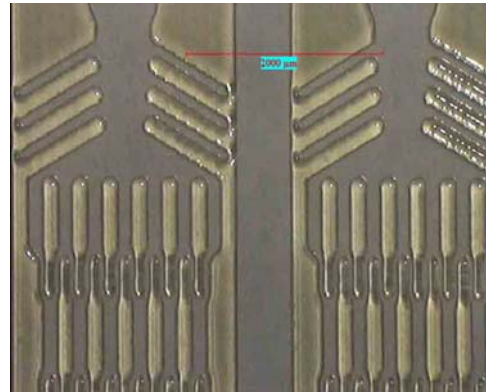
The key is to select fluids that are compatible with the surface energy of the substrate and can be 'fixed' on to the surface in a timely fashion and in a way that subsequent print passes interact with the layer already in place.

Using these techniques Patterning Technologies Limited has produced patterned and continous surfaces for products ranging from Braille to microfluidic path structures and transparent hard coats.

Key benefits of the printing process are around operating flexibility. Short runs become economic, changing patterns does not involve time consuming mask changes and importantly every item can be uniquely identified with a printed code.

Layers do not need to be in the same material, thus opening up other opportunities to introduce active

chemicals interspersed with inert in a variety of patterns. Applications in bio-medical sensors and electronics are key interest areas.



Printed Micro-fluidic Pathway

The Future

Materials chemistry is moving ahead daily and many products that can be made in solution or nanoparticulate suspension lend themselves to printing.

Printhead technology is also advancing with new generation equipment able to handle a wider range of fluid properties and laying down smaller feature sizes.

Patterning Technologies Limited continues to work with its supplier partners to develop new printable processes extending the capability of this technology and increasing choice for its clients and customers. Patterning Technologies Limited enjoys the challenge of developing new applications which seem to be almost limitless!

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