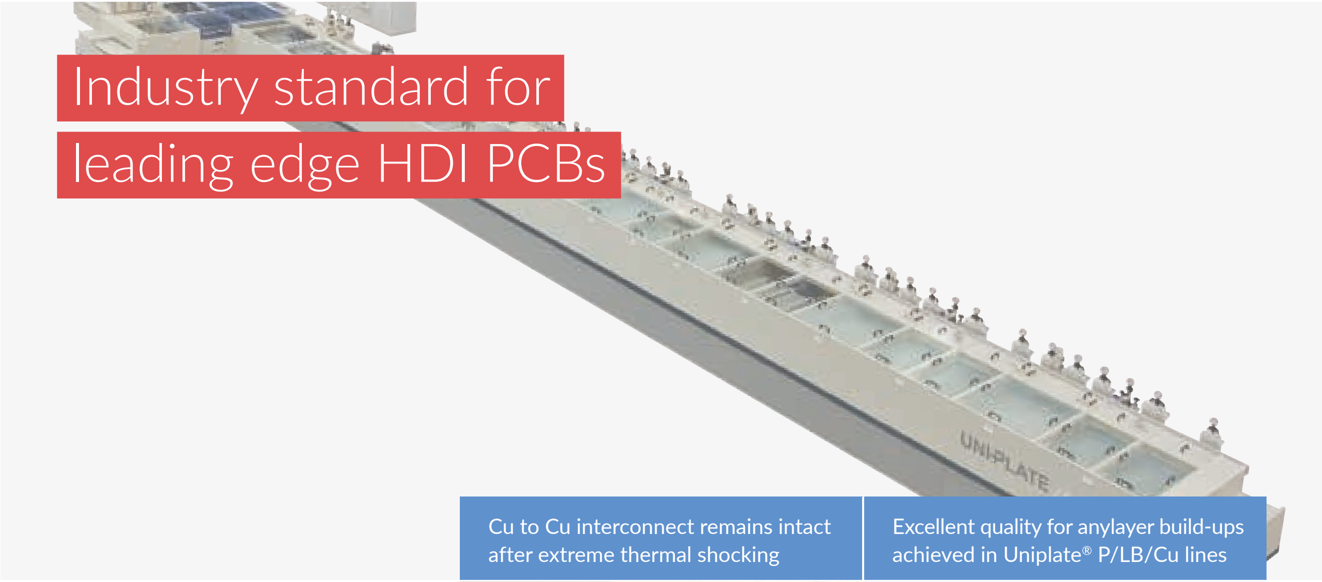
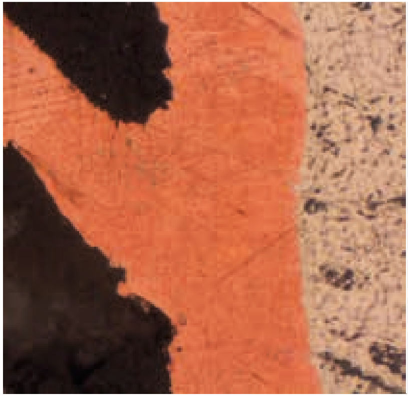
Printoganth® U Plus



Industry standard for leading edge HDI PCBs

Cu to Cu interconnect remains intact after extreme thermal shocking



Excellent quality for anylayer build-ups achieved in Uniplate® P/LB/Cu lines

Smartphones PCBs based on tent & etch and mSAP technology

Automotive MLB & HDI PCBs

Ideal process for products to be used in communication and automotive

With more than 90 mass production lines featuring more than 29,000 k m² cut board of annual throughput capacity, Printoganth® U Plus is the de-facto industry standard for leading edge HDI PCBs by tenting and mSAP technology.
Printoganth® U Plus provides excellent copper to copper interconnections even under severe thermal shock conditions and meets highest reliability requirements from leading automotive and smartphone OEMs.

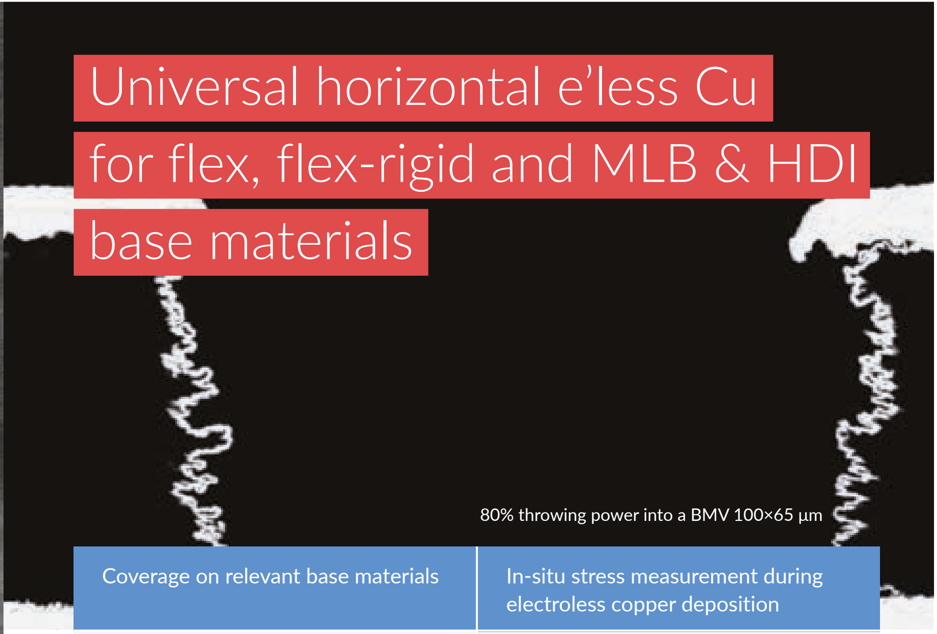
Features and benefits

- Deposition rate: 0.35 – 0.4 µm in 4 min
- Cu to Cu interconnection with outstanding reliability
- Fulfils highest OEM reliability requirements such as
  - 30 cycles IR reflow
  - 1.000 cycles TCT and 2.000 cycles IST
  - Fully analyzable stabilizer system
- Unparalleled capture pad adhesion for stacked via applications
- Mass production proven and qualified at major automotive & smartphone OEMs

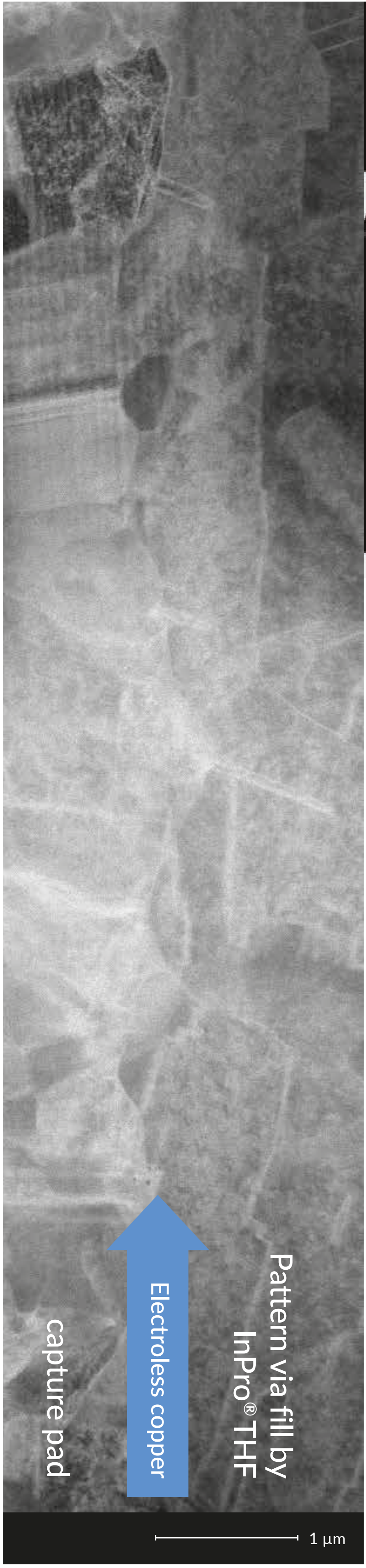
Printoganth® P2

mks Atotech

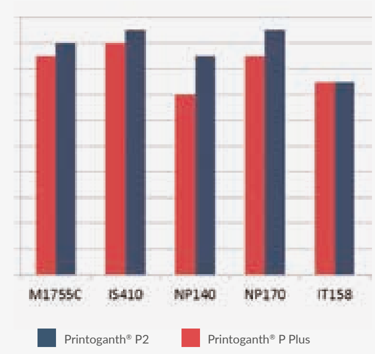
Universal horizontal e’less Cu for flex, flex-rigid and MLB & HDI base materials



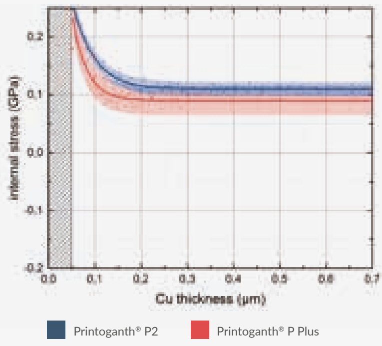
80% throwing power into a BMV 100×65 µm



Coverage on relevant base materials



In-situ stress measurement during electroless copper deposition



Latest member of the Printoganth® P series

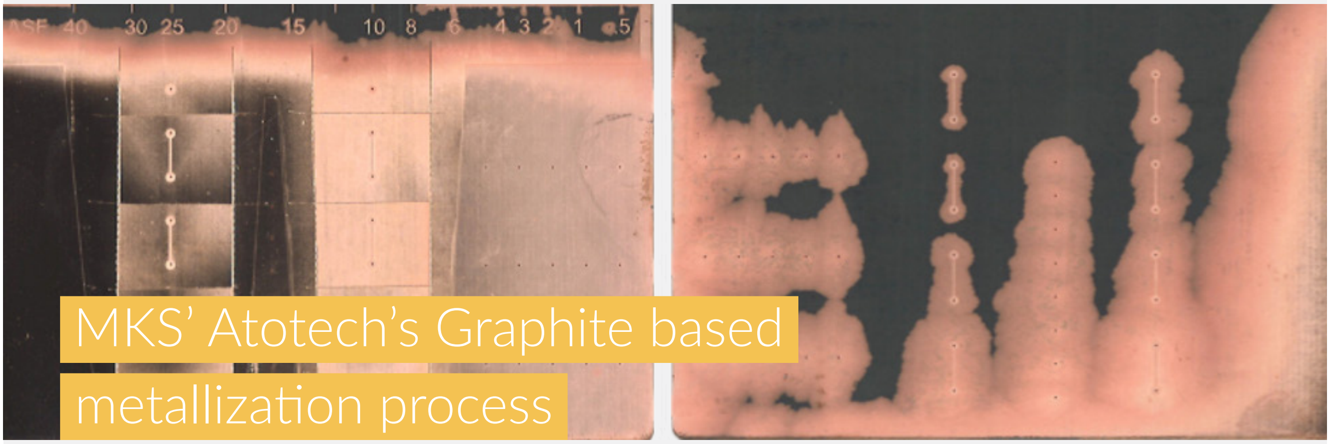
Printoganth® P2 is a new horizontal electroless copper bath which offers outstanding throwing power performance and excellent coverage, even on challenging base materials. As the successor to Printoganth® P Plus, the new P2 process features a comparable internal stress level which ensures very good adhesion even on PI. In combination with an excellent reliability performance and proven compatibility to various via filling electrolytes, Printoganth® P2 is truly a universal solution for IC substrate, HDI, and flex PCB manufactures.

Features and benefits

- Excellent throwing power into BMVs, outperforming Printoganth® U Plus and P Plus
- Outstanding adhesion and non-blistering performance even on challenging substrates such as PI and BT
- Very good reliability performance, very low to zero defects at the BMV capture pad even at ultra high resolution
- Wide compatibility with industry proven electrolytic via filling processes
- Fully analyzable stabilizer system for best process control

ViaKing®

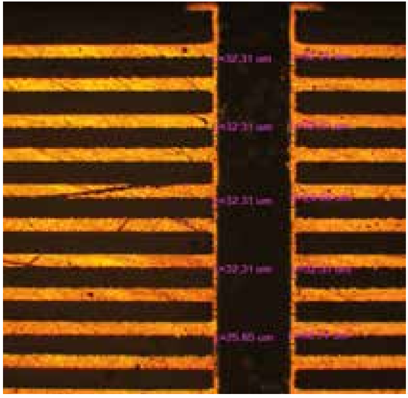
MKS' Atotech's Graphite based metallization process



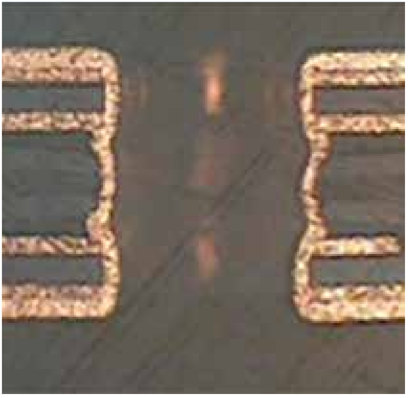
Front

Back

High layer count capable



Flex and exotics compatible



50%

of existing customers are using ViaKing® for the production of flex and exotic dielectric materials

Excellent performance and bath life

ViaKing® is MKS' Atotech's enhanced graphite-based direct metallization process. Optimized for both high and low volume production needs, ViaKing® operates with an attractive CoO but offers the highest product reliability and capability.
Designed to operate with low etch conditions, in combination with a stable and long-life graphite bath, ViaKing® provides excellent stability, conductivity and electrical integrity for market-leading high yield electrolytic plating.

Features and benefits

- Compatible with a very wide range of dielectric materials
- Direct Cu to Cu adhesion for maximum reliability
- Low etch depth for minimal copper removal on inner layers – reduced risk of etch back ICD or voids
- Unique Conductivator formulation is highly resistant to bacterial and copper contamination
- Wide operating window and enhanced bath stability
- Outstanding plating propagation
- Suitable for both panel and pattern plate technologies
- Ideal for both high volume as well as low volume or stop / start production