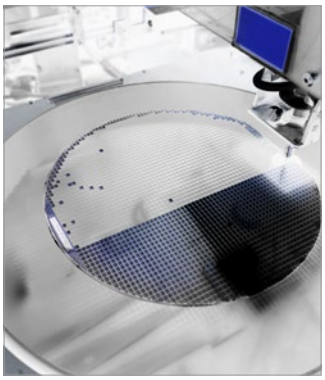
Version: 24 March 2025

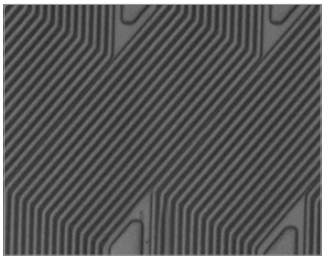
IntraCu® SC-1



Take Advanced Packaging to a completely new level

Our modular additives are designed to meet the highest requirements of the semiconductor industry in advanced packaging and offer the foundation for depositing customized material properties e.g. for Microbumps in IC packages, RDL in wafer level packaging and Pillar in flip-chip packaging.

IntraCu® SC-1* System provides customers the opportunity to make products that require thermal and mechanical stability in future, so that fine lines/structures will not break during subsequent packaging and assembly operations. In addition, it offers a lower cost alternative for copper to copper direct bonding due to its signature flat topography. Furthermore, its submicron surface roughness and etch-resistant nature is a great advantage in PLP applications in addition to wafer level packaging.



Advantages

- Bamboo-like structure
- Matte Cu, Ra < 0.2 µm
- Flat topography
- Stable tensile strength
- Resistant to grain growth
- Resistant to etching

Applications

- Fine line RDL (< 2 µm)
- Cu-to-Cu direct bonding

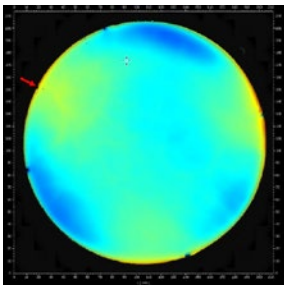
SHINHAO MATERIALS
昕皓材料

* Not available in Europe

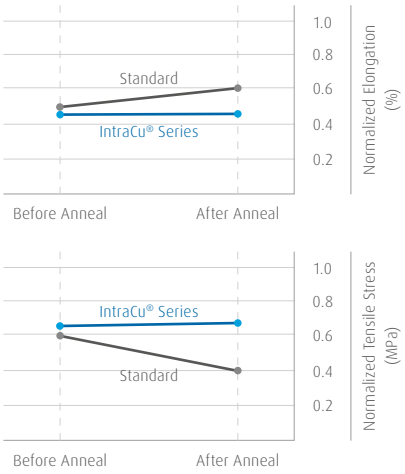
IntraCu® SC-1

TECHNICAL SPECIFICATIONS

	Application	Cu Appearance	Anode type	VMS; Cu content	Cu-to-Cu Direct Bond	Stable Tensile Strength	High Speed Plating	Comparable WID vs. POR
SC-1	Fine Line RDL	Matt Cu Ra <0.2 µm	Insoluble / Soluble	VMS 28 & VMS 50	✓	✓	✓	✓



Very low stress of IntraCu® SC layers: 8 inch blanket wafer, plated on one side with 20 µm, shows warpage < 10 µm.



YOUR CONTACT

Do you have a specific question or would you like a no-obligation quote calculation?
Our specialist will be happy to help you with any technical questions you might have.

Markus Legeler
Manager Sales International

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umicore

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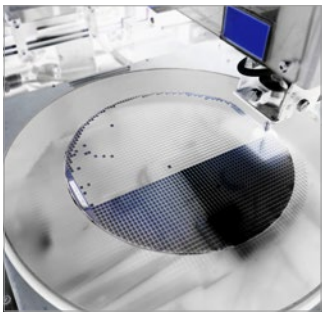
IntraCu® Additives*

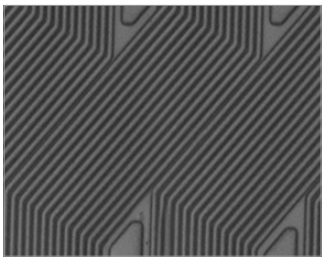


Take Advanced Packaging to a completely new level

Umicore's business unit Electroplating have partnered with SHINHAO Materials to provide innovative patented additives* for copper electroplating into the advanced packaging industry.

IntraCu®* as a modular Copper electroplating additive system embodies an integral part of our joint product offering. It is manufactured in state-of-the-art clean room environment to meet quality standards of the semiconductor industry.

IntraCu®* additives can be seen as a POR replacement for Microbumps in IC packages, RDL in wafer level packaging and Pillar in flip-chip packaging.



Advantages

- Bamboo-like structure
- Matte Cu, Ra < 0.2 µm
- Flat topography
- Stable tensile strength
- Resistant to grain growth
- Resistant to etching
- Bright Cu, Ra < 0.03 µm
- ±50% process window for Cu pillar and RDL
- Total in-film organics < 11 ppm
- Excellent KV-less performance

Applications

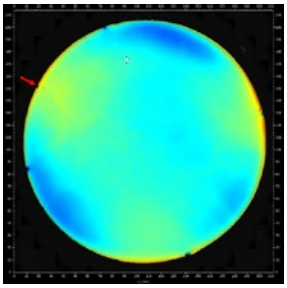
- Fine line RDL (< 2 µm)
- Cu-to-Cu direct bonding
- 2-in-1 bright Cu (Cu pillar and RDL)
- 2-in-1 with KV-less requirement

SHINHAO MATERIALS
昕皓材料

* Not available in Europe

IntraCu® Additives

TECHNICAL SPECIFICATIONS



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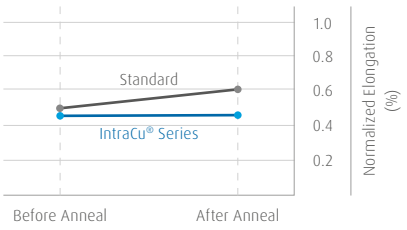

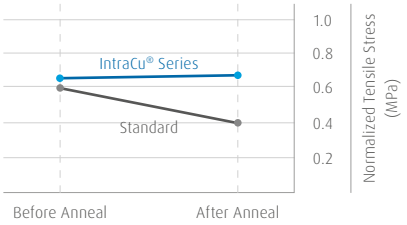

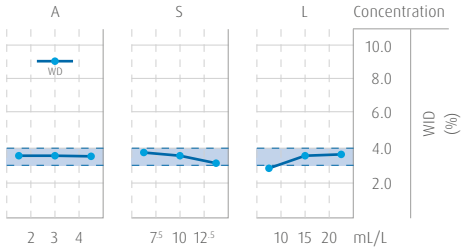

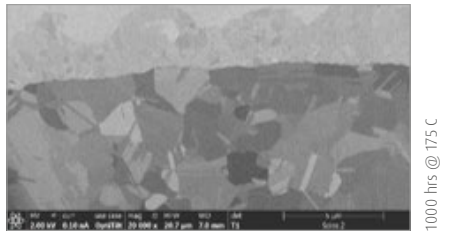

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