

**Patent
61/755,464**

UFP[®] Wedge (Ultra-Fine Pitch)

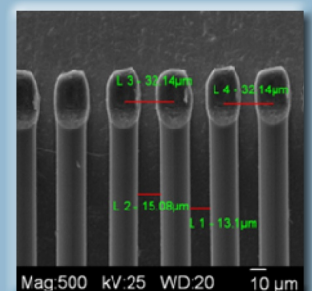
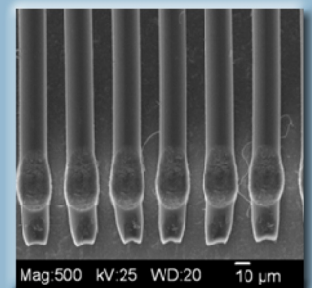
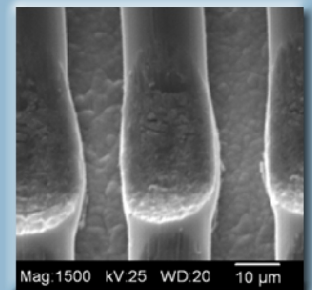
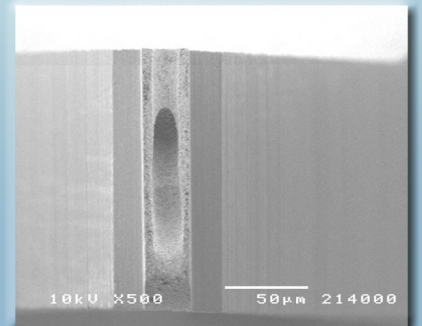
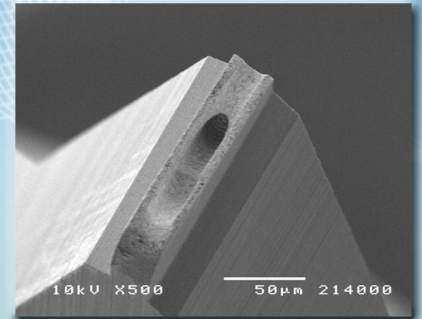
MPP's **UFP[®] wedge** was developed to provide a wire - bonding solution for a very narrow pitch, lower than 45μ , using thicker wire.

As the demand for increasing wires amount and on smaller chip, the need for a tools that can do the "job" arises, where current ball bonding solution is limited.

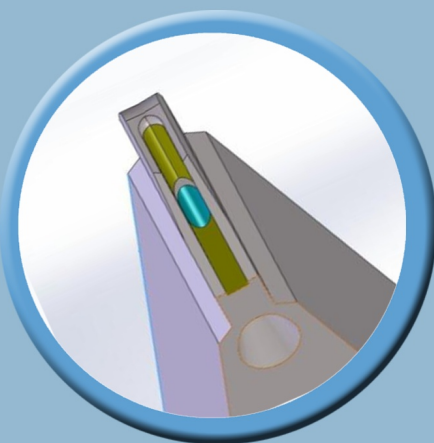
MPP's **UFP[®] wedge** bonding tool is a unique proven (patented) solution featuring:

- **Ultra-Fine Pitch** of less than 45μ
- **Thicker Wire** - compare to ball bonding → higher current for the same pitch
- **Low Loop** – smaller package
- **Narrow front width (W)**
- **Higher tip accuracy**

MPP's UFP wedge tools can be customized to your application
Applicable for **Al** and **Au** wires



Catalog No. 9000-0015-000 0214



UFP® Wedge bonding tool



Increasing wires amount per same area of chip, requires reduction of the pad to pad pitch, and the need for smaller bonding tools arises. However, maintaining relatively thicker wire on a smaller pitch requires reducing the tool wall thickness, and this can't be done with current tools solutions, as in Capillary.

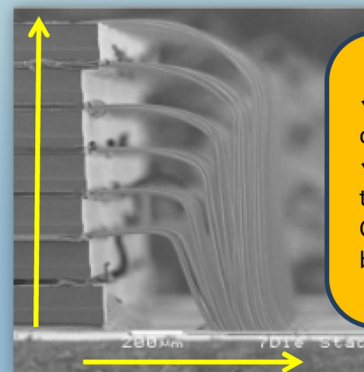
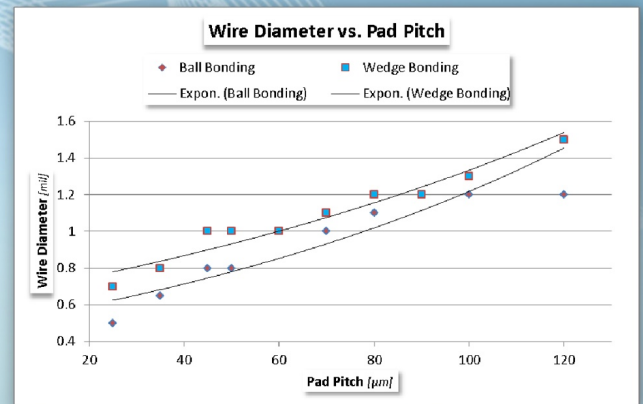
MPP's production processes & **XP** material of the **UFP® wedge** enables reducing the wall of the tool and thus using a relatively thicker wire. This figure shows the advantage of **UFP® wedge** over capillary when using thicker wire on same pitch.

Using thicker wire with **UFP® wedge** enables to perform lower loops on wire bonding, due to wire stiffness, and also a much smaller overall cross-section. This allows the design and manufacturing of much smaller packaging.

UFP® wedge bonding can also bond very steep loops, close to the die edge, result in the decrease of the package cross section.

MPP's **UFP® wedge** bonding tool is made of MPP's **XP** Material maintaining wedge strength for bonding loads on small wall thickness.

Higher Current Carrying Capacity Using **UFP® wedge** enables a greater current carrying capacity.



7 Dies Stack
✓ 32% decrease in cross section
✓ 20% reduction in total height
Compare to ball bonding

