

Selective electrochemical deposition – Selectroplating® by IPGRIP.

Why we do it

- Interconnect fabrication is a critical segment of semiconductor manufacturing which costs the industry more than \$3 bln. each year. Major interconnect segments are damascene processes, Through Silicon Vias (TSV) packaging, and contact metallization for the solar photovoltaic industry;
- Commonly used technologies employ combinations of pattern formation, blanket electrochemical metal deposition, and CMP for removal of the excess metal. **More than 80% of deposited metal is removed with CMP.**
- **Selectroplating®** technology allows selective electrochemical deposition of metal into a pattern. The technology enhances deposition, reduces CMP, promotes the use of advanced materials, and offers dramatic cost savings in interconnect fabrication.

What we do

- Application of the Selectroplating® agent onto a surface to allow selective metal deposition;
- Fast process in atmospheric conditions;
- Works well for shallow trenches and deep TSV holes;
- Good for small damascene structures and wide areas.

How it Works

- Chemical modification of the seed layer with the Selectroplating® agent; selectivity is based on the existing wafer pattern;
- Durable layer – good for standard damascene and TSV plating processes;
- Stable – preserving selectivity qualities for days.

Who we are

- IPGRIP is an early stage technology start-up;
- US and international patents pending;
- For more information contact Mr. Andrew Mavliev at andrew.mavliev@ipgrip.com.

Wafer cross section after (a) conventional and (b) Selectroplating® deposition (the same bath!).
Selectroplating® - less deposition means less CMP!

