

ENVISION[®]

Direct Metallization System

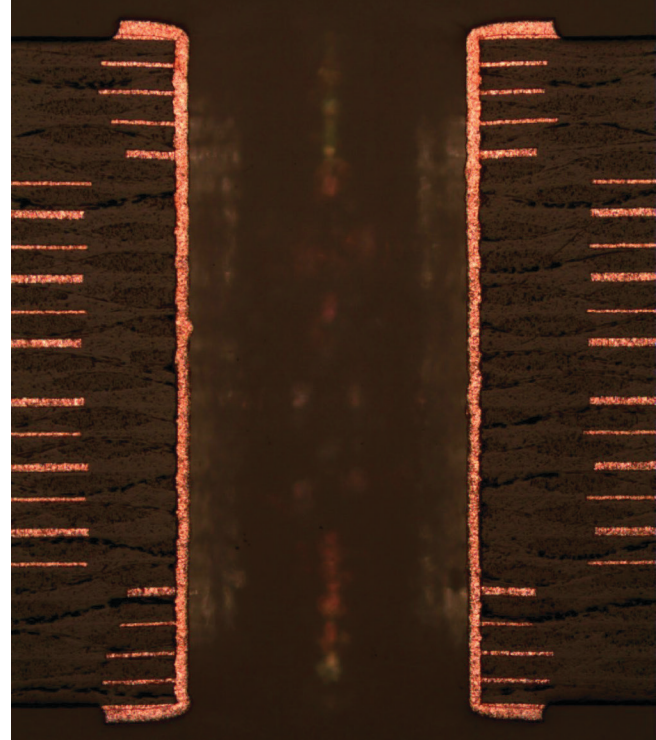
No Job Too Small. ENVISION[®] Has You Covered.

ENVISION[®] meets the volume demand for PCBs and providing a greener world are no longer incompatible goals. ENVISION direct metallization process delivers more board capacity with substantially improved performance. ENVISION polymer-based system is unlike any other direct metallization process on the market today.

You no longer need to choose between performance and increased capacity. You only need to choose ENVISION.

KEY FEATURES

- Lowest cost of ownership vs. electroless copper and other direct metallization alternatives
- Meets or exceeds performance and reliability standards
- Delivers reliable processing of microvias and high aspect ratio multilayers in a single pass
- Short, three-step process increases productivity
- Low viscosity ensures thorough wetting of blind vias
- Eliminates interconnect defects
- Reduces water usage, energy consumption and waste treatment by eliminating electroless copper
- High performance, ecofriendly, direct metallization process



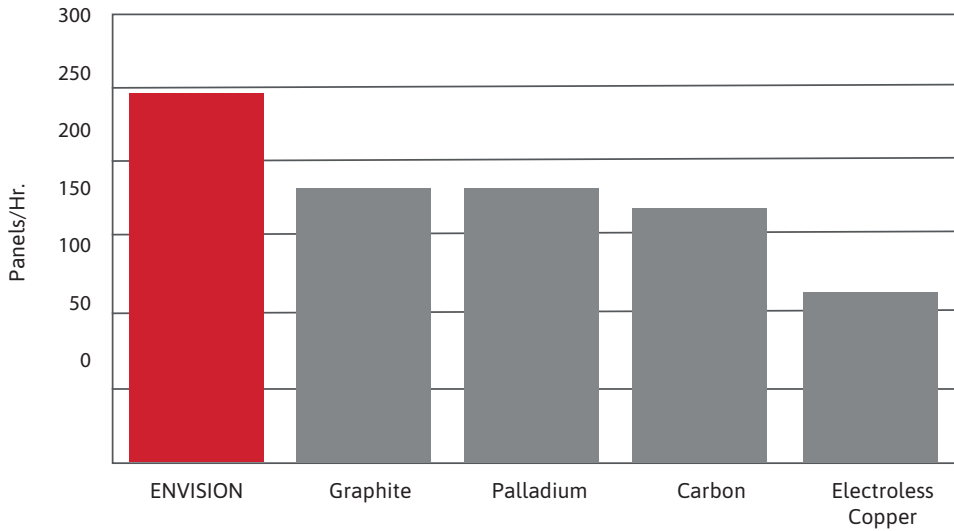
MacDermid Enthone

CIRCUITRY SOLUTIONS

ENVISION[®]

Direct Metallization System

Productivity Increase



Production Output • 15 Meter Long Horizontal Line

Energy Use Comparison

| | | |
|--------------------|-----------------------|-----------------------|
| Energy Consumption | Electroless Copper | ENVISION |
| Hourly Consumption | 220 kilowatts | 135 kilowatts |
| Per m ² | 3.67 kilowatts | 2.25 kilowatts |
| Annual Consumption | 1.3 million kilowatts | 0.8 million kilowatts |

Calculation based on 2.0 meter/minute horizontal line.

Water Reduction Comparison

