WHAT'S THE CARBON FOOTPRINT OF YOUR PTH LINE?

ELECTROLESS COPPER	VS	SHADOW / BLACKHOLE DIRECT METALLIZATION
15+ horizontal or vertical steps	PROCESS STEPS	~6 horizontal steps **89% Reduction in operator labor**
Heavy metals, chelators, toxic chemicals	WASTE TREATMENT	Little to no waste processing required **69% Reduced waste treatment**
High temperature, high water usage	OPERATION	Low Temp, Minimal Rinsing **57% Reduced power usage** **76% Reduced water usage**
Requires constant dosing to maintain plating	RATE OF CHANGE	Non-dynamic process chemistry **Stable quality, start-stop ease**
Palladium metal	ACTIVATION	Carbon or Graphite ***Zero* Precious Metal Costs**

MacDermid Alpha ELECTRONICS SOLUTIONS

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