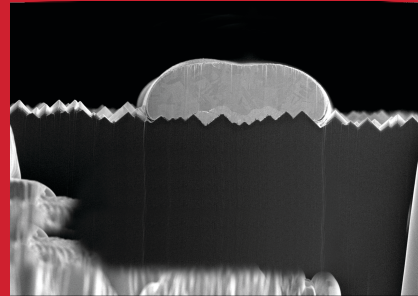
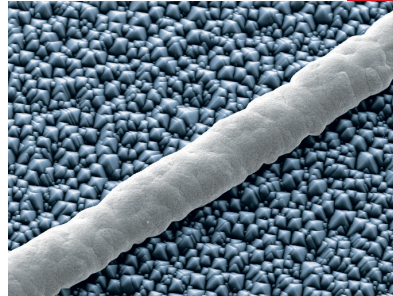
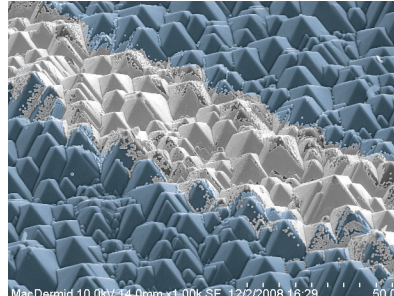
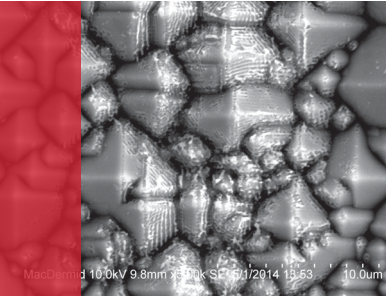




# MacDermid Enthone



## PHOTOVOLTAICS PRODUCT SELECTOR CHART

**MacDermid Enthone** and our experienced integration partners deliver a complete metallization system including specialty chemistry, laser patterning tools, and high speed automated plating and annealing equipment. Join the leaders in PV efficiency by adopting copper technology – the whole system is engineered and ready for you.

**PATTERN:** Laser or Resist

**SEED LAYER PLATING:** Sputter Nickel or Copper

**CONDUCTOR:** Copper In Line, Automatic; 3 Minutes

**SURFACE FINISH:** Immersion Silver, Tin, OSP



**MacDermid Alpha**  
ELECTRONICS SOLUTIONS



[macdermidalpha.com](http://macdermidalpha.com)

February, 2019

CIRCUITRY SOLUTIONS

	p-Type PoSi (Al BSF, PERC, PERT)	SHJ	n-Type Bi-facial	IBC	Thin Film
<b>Metallization - LIP and EP</b>					
LIP Ni	Helios 610, HELIOFAB 368				
EP Ni		Helios 610	Helios 610		
LIP Cu	Helios 620				
EP Cu		Helios 620, HELIOFAB 320C, HELIOFAB 330R	Helios 620, HELIOFAB 320C, HELIOFAB 330R		
LIP Ag	HELIOFAB 340				
EP Ag		HELIOFAB 340	HELIOFAB 340	HELIOFAB 340	
I-Ag (with pre-dip)	Helios 452		Helios 452	Helios 452	
EP Sn		Helios 410, PV24, HELIOFAB 380	Helios 410, PV24, HELIOFAB 380	Helios 410, PV24, HELIOFAB 380	
OSP	ENTEK PLUS HT	ENTEK PLUS HT	ENTEK PLUS HT	ENTEK PLUS HT	
<b>Cell Surface Clean</b>					
Si deox/Clean	Helios 914, SolarPerp 903				
Cu Pre-Clean w/ Resist	Helios 924	Helios 924	Helios 924	Helios 924	
Ni/NiV Pre-Clean		Helios 918, HELIOFAB 113	Helios 918, HELIOFAB 113		
Al Sputter		SolarClean 32A			
TCO		SolarClean TCO			
Post Sn Clean		SolarPlate PV N	SolarPlate PV N	SolarPlate PV N	
<b>Sputter Metal Etch</b>					
TiW/Cu on ITO		Helios 915			
Cu on ITO		Helios 915, Helios 904, ENTEK ME 1020			
Al/TiW/Cu				Cobra Etch II	
CdTe/CdS					SolarStrip
Cr					SolarStrip CR PV400
CdSe/CdTe					SolarStrip2
<b>Resist Strip</b>					
Inkjet		Helios 931	Helios 931	Helios 931	
Dry Film		Helios DFS 011	Helios DFS 011	Helios DFS 011	
<b>Imaging</b>					
Inkjet Ink (UV)		Helios 930	Helios 930		
IJ Head Cleaner		Helios 934	Helios 934		
IJ Surface Prep		Helios 933	Helios 933		
<b>Belt Strip - MECO</b>					
Belt Strip - Cu		HELIOFAB 848C	HELIOFAB 848C	HELIOFAB 848C	
Belt Strip - Ag		HELIOFAB Ag 06	HELIOFAB Ag 06	HELIOFAB Ag 06	
<b>Jig Strip - PAL</b>					
Jig Strip - SN		Helios JSS 021	Helios JSS 021	Helios JSS 021	
Jig Strip - Cu		Helios JSC 022	Helios JSC 022	Helios JSC 022	
Jig Strip - Cu (RC)		HELIOFAB 848C	HELIOFAB 848C	HELIOFAB 848C	
<b>Wafer Clean</b>					
Si or Glass	Helios 850, Helios 851, Helios 852, SolarClean GSC	Helios 850, Helios 851, Helios 852, SolarClean GSC	Helios 850, Helios 851, Helios 852, SolarClean GSC	Helios 850, Helios 851, Helios 852, SolarClean GSC	Helios 850, Helios 851, Helios 852, SolarClean GSC