

Copper-Indium-Gallium-Selenide (CIGS)

Copper Indium Gallium Selenide solar cell (CIGS) are manufactured by vacuum deposition, where thin layers of copper, indium, gallium and selenium are coated on glass or plastic. To collect the current a transparent conductive front contact (AZO or ITO) and a metallic back contact are required.

Due to the high sunlight absorption coefficient of CIGS materials the layers can be much thinner compared to other semiconductor materials. The advantage: CIGS modules are available on glass and flexible light-weight substrates. CIGS Modules are the preferred choice for integrated solar solutions in regions where sunlight may not be optimal.

Vital Thin Film Materials provides high purity CIGS products for thin-film solar module manufacturers. Standard materials available include: CIGS, CuIn, CuGa, In_2S_3 , In_2Se_3 , CZTSe, CZTS, AZO, ITO, Ti, Mo and Se.

Targets

	CuInGaSe		CuInGa		CuGa	AgGa	In_2Se_3	In_2S_3
Form	Planar Target	Rotary Target	Planar Target	Rotary Target	Planar Target	Planar Target	Planar Target	Planar Target
Purity	4N	4N	4N	4N	4N	4N	4N	4N
Density (g/cm ³)	>5.52	>5.33	>7.12	>6.75	>8.40	>9.40	>5.75	>4.41
Typical Compositions (wt%)	Available on request						In49.22 Se50.78	In70.48 Se29.52
Composition Tolerance (wt%)	±0.5	±0.5	±0.5	±0.5	±0.3	±0.3	±0.5	±0.5
Max Dimensions*	Ø340mm	*	Ø340mm	*	Ø340mm	Ø340mm	Ø340mm	Ø340mm

*Custom compositions/dimensions available on request

Evaporation Materials

	CuInGaSe Powder	CuInGa Powder	Se Shot
Purity	5N	5N5	7N

*Custom compositions/dimensions available on request

Recycling

Vital Thin Film Material provides closed loop recycling for residues containing In, Ga, Se as well as spent targets, chamber / shield scrap and end of life products. We also provide customized recycling solutions for complex waste materials.

VTFM is ISO9001, ISO14001, ISO14021 and OHSAS18001 certified.

