

Vacuum ▶ PVD Thin films ▶ Leak testing ▶ Plasma



Photovoltaic thin film deposition

CLUSTER LINE CIGS



Deposition of CIGS thin films for photovoltaic applications

CLUSTER LINE CIGS is a clustertool for the production of thin film solar cells. This equipment is the latest tool designed by our engineering department for photovoltaic applications. The substrate is transferred from one chamber to another without contamination thanks to a custom-designed vacuum robot. Cluster Line CIGS has been developed within the FUI project « Pro-CIGS » (supported by the Tenerrdis, Derbi and Mont-Blanc Industries clusters), in collaboration with Annealsys and CEA LITEN.



STATE-OF-THE-ART FEATURES

- Two load lock chambers (in / out) for up to 156 x 156 mm² and 1 to 3 mm thick substrates
- Transfer module equipped with our custom-designed vacuum robot to connect the different chambers
- Four chambers:
 - Magnetron sputtering with up to 4 metallic precursors targets
 - Evaporation using a perfectly controlled selenium source
 - RTP annealing specifically designed for CIGS crystallization
 - Magnetron sputtering with up to 4 targets for buffer & TCO layers
- Multi process capability: each chamber works simultaneously
- Materials : Mo, MoNa, Cu, CuGa, In, Sn, ZnS, ZnO, ITO, ZnOAl...



CIGS solar cells

KEY DATA

Load lock	2 (one in, one out)
Deposition chambers	4
In-situ heating	250 °C
RTP	20 °C/s - max 700 °C ^[1]
Substrate dimensions	156 x 156 mm ²
Ultimate vacuum	10 ⁻⁷ mbar ^[1]
In-line production cycle time	5 min ^[1]
Fully automatic system controller	Process management Traceability Easy maintenance

^[1] These values have been measured on equipment we have delivered and should be handled as information only. The features of a system depend on its final configuration.

ALLIANCE CONCEPT

4 avenue du Pont de Tasset 74960 CRAN GEVRIER FRANCE

lat : 45.9109512 - long : 6.0984011

tel. : +33 (0)4 50 57 93 85 fax : +33 (0)4 50 57 93 74

<http://www.alliance-concept.com>

contact@alliance-concept.com

