

Bergen is LayTec's new sales a service partner in India



Bergen Associates Pvt. Ltd.

LayTec in-line GmbH has signed a distribution agreement with Bergen (baplinia.com) – a leading service and sales company for photovoltaic (PV) and electronic manufacturing industries in India. Bergen has 20 years experience of re-

presenting leading international technology companies in India and is a part of an extensive network within different industrial branches. We are confident that Bergen is an ideal partner to introduce LayTec's in-line metrology for PV manufacturing and other large area thin film applications in India!

50 nm thin layers monitored with astonishing precision by SolR®

A successful application of SolR® by a confidential industrial customer has proven the extreme sensitivity of the in-line metrology tool. Fig. 1 shows in-line measurements of thickness homogeneity over 7 modules directly after deposition of a thick CIGS absorber layer (upper part) and a thin CdS buffer layer of less than 50 nm (lower part).

The measurement is based on spectroscopic reflectance and is taken by 2 optical heads installed at two different positions perpendicular to the transport direction of the modules (white and green transients in the screenshot). The character-

istic patterns of the film thickness line scans across the modules show that the thickness is inhomogeneous. However, all modules have a similar pattern of thickness distribution. The CIGS layer is typically thinner in the center than at the edges. The CdS layer has an S-shaped thickness distribution. Furthermore, in case of the CdS layer, a certain systematic variation of the production line has been identified by statistical process analysis: the mean CdS thickness (median) increases with the progress of the process time (dash line in Fig. 1).



Fig. 1: Thickness transients of CIGS and CdS layers by SolR®.

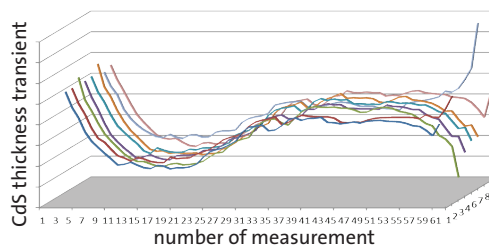


Fig. 2: Example of reproducibility measurements: CdS thickness measurements (color coded) on the same module.

The standard deviation for both CIGS and CdS layer thickness measurements was found to be less than 1 nm (Fig. 2).

These high precision measurements are now used by the customer to improve the process toward higher yield and maximum cell efficiency. Learn more about SolR® on our brand new web-site: www.laytec.de/solr

All metrology tools on one spot

On 19–21 June, the visitors of Intersolar Europe in Munich will have a unique opportunity to see a whole range of metrology solutions at one booth! In the 40 qm Metrology Area, LayTec and its partners greates and Suragus will exhibit various systems for metrology, imaging and inspection. The



tools perfectly complement each other and can be applied for different production steps throughout the whole line.

Make an appointment via mail@laytec.de and we will find the best solution for your process! (Booth 258, Hall A5)

You can meet us at the following workshops, conferences and trade fairs:

17–19 June 2013 | IEEE Photovoltaic Specialists Conference – Booth 114 | Tampa, Florida, USA | ieee-pvsc.org/PVSC39

19–21 June 2013 | Intersolar Europe – Hall A5, Booth 258 | Munich, Germany | intersolar.de