Excerpt

PV module failures from field experiences

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PV-plan®

Engineering Office for Photovoltaics

IEA PVPS workshop @EU PVSEC 2012 • Frankfurt • 24.09.2012

Overview

- PV module failures from field experiences
  - breakage/ damage of front cover
  - damages of solar cells (microcracks, snailtrails, corrosion, …)
  - failure of embedding material, primer or backsheet (handling mistakes during production, delamination, UV breakdown, …)
  - failure of electrical contacts, failure of bypass-diodes
  - power loss (degradation, PID, etc.)
- Demands for the future

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Future demands

- No discrepancies between module type certification and actual module constrcuction! Definite and unchangeable marks at individual module components.
- Clear statements regarding compatibility with system concepts (inverters, mounting structure , …).
- Clear statements regarding applications in „polluted“ atmosphere (e.g. in agriculture, near coasts, …).
- Implementation of new tests regarding cell cracks, revision of UV test, compatibility test of PV connectors.
- Definite characterisation of all module components and their production conditions is decisive for high-quality PV modules!

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Engineering Office for Photovoltaics

- Plant location and energy yield assessments
- Assessment of technical quality of realized PV plants, function and acceptance measurements, fault analysis
- Consulting to PV systems for architects, municipalities, engineering offices, solar industry, banks, insurance companies and other investors
- Planning and detail calculation of PV systems