TÜVRheinland®
Precisely Right.

Partial Discharge Test

on reverse side foils of PV modules
according to IEC 60664-1, IEC61730

26. August 2008

Company / Examined foil:

Madico, Inc.		
TFB HD		
Aluminium	50 micron	outside
PET	254 micron	
EVA	102 micron	cell side

* The EVA is not part of the directly encapsulation of the PV cells

Number of measurements: 10

Remarks: None

Extinction voltage		Deviation from the mean value (%)
Min. value in (V)	1157	-3,4
Mean value in (V)	1198	
Max. value in (V)	1238	3,3

The mean value minus the experimental standard deviation will be used to calculate the max. permissible voltage.
Experimental standard deviation: 29 V

Calculation of the max. permissible operating voltage on the basis of the ascertain values
Basis: **IEC 60664-1**

Umax = Ue x 1,414 / 1,2 x 1,25

1,414 Calculation of the peak value
1,2 Safety factor (humidity, temperature, etc.)
1,25 Safety factor (double or reinforced insul.)

Maximum permissible system voltage	**1102 VDC**

Responsible for Partial Discharge Testing

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