

## Partial Discharge Test

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

3. September 2014

Company / Examined foil:

<b>Madico Inc.</b>	
<b>Reflekt Light</b>	
PET	51 micron
Adhesive	5 micron
PO	203 micron

Number of measurements: 10

Remarks: none

### Extinction voltage

Min. value in (V)	1096
Mean value in (V)	1161
Max. value in (V)	1205

### Deviation from the mean value (%)

-5.6
3.8

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

Experimental standard deviation: 35 V

Calculation of the max. permissible operating voltage on the basis of the ascertain values

**Basis: IEC 60664-1**

$$U_{max} = U_e \times 1,414 / 1,2 \times 1,25$$

1.414 Calculation of the peak value

1.2 Safety factor (humidity, temperature, etc.)

1.25 Safety factor (double or reinforced insul.)

<b>Maximum permissible system voltage</b>	<b>1061 VDC</b>
---	-----------------

Responsible for Partial Discharge Testing

i.A.

i.V.

Dipl.-Ing. S. Menzler

Dipl.-Ing. L. Jakisch

---

TÜV Rheinland Energie und Umwelt GmbH, Am Grauen Stein, 51105 Köln, Germany