

Partial Discharge Test
on reverse side foils of PV modules
according to IEC 61730

22 May 2006

Company / Examined foil:

COVEME S.P.A.		
TPE 290		
EVA *	100 my	cell side (white)
Adhesive	10-12 my	
Polyester (PET)	125 my	
Adhesive	10-12 my	
Tedlar (PVF)	37 my	outer side (white)

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

Number of measurements: 10

Extinction voltage		Deviation from the mean value (%)
Min. value in (V)	1127	-7,5
Mean value in (V)	1218	
Max. value in (V)	1328	9,0

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

Experimental standard deviation: 63 V

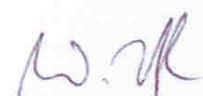
Calculation of the max. permissible operating voltage on the basis of the ascertain values

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.)

Maximum permissible system voltage	1090 VDC
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Testzentrum Energietechnik

Regenerative Energien

TÜV Immissionsschutz und Energiesysteme GmbH, Am Grauen Stein, D-51105 Köln, Germany