

# Static Proof

of the

## KBMS Consult GmbH

Engineer Office of Fire Prevention – Mounting Systems – Solar Energy  
PV Plant Experts (TÜV®)

certified the company

Mounting systems for solar technology

## K2 Systems GmbH

Industriestraße 18, 71272 Renningen

and its pitched roof mounting system

### Speedrail

successful in its application of the sandwich structural component for the product

### MONTANATHERM MTD TL 85/1000

in a series of tests that were analyzed and proven based on the sandwich guidelines, in accordance with DIN EN 1990:2010-12, annex D calculated design values were compared with the general building approval design values from December 12, 2014 No. Z-14.4-603:

| Type of Experiment                                  | P <sub>Rd</sub> as per AbZ | P <sub>Rd</sub> from Test | Utilization  |
|---|----------------------------|---------------------------|--------------|
| <b>on three support Beams<br/>with central Load</b> |                            |                           |              |
| Static Tension Test                                 | <b>1,60 kN</b>             | <b>2,80 kN</b>            | <b>57 %</b>  |
| Dynamic Tension Test                                | <b>1,60 kN</b>             | <b>3,04 kN</b>            | <b>53 %</b>  |
| Static Lateral Force Test                           | <b>2,95 kN</b>             | <b>4,56 kN</b>            | <b>65 %</b>  |
|   |                            |                           |              |
| <b>with eccentric Load</b>                          |                            |                           |              |
| Static Tension Test                                 | <b>1,60 kN</b>             | <b>1,72 kN</b>            | <b>93 %</b>  |
| Dynamic Tension Test                                | <b>1,60 kN</b>             | <b>1,84 kN</b>            | <b>87 %</b>  |
| Static Lateral Force Test                           | <b>2,95 kN</b>             | <b>3,44 kN</b>            | <b>86 %</b>  |
|   |                            |                           |              |
| <b>on a short Piece<br/>with central Load</b>       |                            |                           |              |
| Static Tension Test                                 | <b>1,60 kN</b>             | <b>2,56 kN</b>            | <b>63 %</b>  |
| Dynamic Tension Test                                | <b>1,60 kN</b>             | <b>2,76 kN</b>            | <b>58 %</b>  |
| Static Lateral Force Test                           | <b>2,95 kN</b>             | <b>4,32 kN</b>            | <b>68 %</b>  |
|   |                            |                           |              |
| <b>with eccentric Load</b>                          |                            |                           |              |
| Static Tension Test                                 | <b>1,60 kN</b>             | <b>1,60 kN</b>            | <b>100 %</b> |
| Dynamic Tension Test                                | <b>1,60 kN</b>             | <b>1,72 kN</b>            | <b>93 %</b>  |
| Static Lateral Force Test                           | <b>2,95 kN</b>             | <b>3,34 kN</b>            | <b>88 %</b>  |

No damage was made to the sandwich panels during these tests!

Hessisch Lichtenau in May 2015



  
(Dr.-Ing. Thorsten Kühn)