



Certification body  
empowered by CEN n°016

**KEYMARK LICENSE**  
CERTIFICAT  
**SK 0006**



**SOLAR THERMAL PRODUCTS**  
PRODUITS SOLAIRES THERMIQUES

**Granted to / Délivré à**

**SONNENKRAFT FRANCE**  
*16, rue de Saint Exupéry – ZA de l'Aérodrome*  
*67 500 HAGUENAU*

**For the following products / Pour les produits suivants**

**DOMESTIC SOLAR WATER HEATERS**  
CHAUFFE-EAU SOLAIRES INDIVIDUELS

**SONNENKRAFT – COMPACT E & SKR 500**

(References and characteristics given in attached appendix / Références et caractéristiques données en annexe)

**Manufactured in the production plant / Fabriqué(s) dans le(s) site(s) :**

**SANKT VEIT AN DER GLAN (AUTRICHE)**

**This certificate is issued by CERTITA according to the specific CEN Keymark Scheme Rules for Solar Thermal Products in respect of the following standard(s):**

**EN 12 976-1**

**It authorizes the licensee to use the Keymark for the listed products.**

Ce certificat est délivré par CERTITA dans les conditions fixées par le référentiel de certification Keymark s'appliquant aux produits solaires thermiques et en référence à la (aux) norme(s) ci-dessous :

**EN 12 976-1.**

Il autorise l'entreprise à utiliser la Keymark pour les produits visés.

**Effective date : 2013-04-19**  
*Date de début de validité*

**Expiry date : 2013-12-31**  
*Date de fin de validité*

Issued at Courbevoie, on 2013-04-19

For CERTITA

**François-Xavier BALL**  
**Président**

Certificate n° SK 0006

CERTITA S.A.S. Société par actions simplifiée au capital de 40 000 € - 513 133 637 RCS Nanterre – www.certita.fr  
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CERTITA 09/2012





|  |  |  |               |  |                        |  |            |     |     |       |     |
|--|--|--|---------------|--|------------------------|--|------------|-----|-----|-------|-----|
| <b>Summary of EN 12976 Test Results,<br/>annex to Solar KEYMARK Certificate</b>  |  |  |               | <b>Certification No.</b>                               |                        | <b>SK 0006</b>                           |            |     |     |       |     |
|  |  |  |               | <b>Issued</b>  |                        | 2013-04-19                               |            |     |     |       |     |
| <b>Company</b>   | SONNENKRAFT France                           |  |               | <b>Country</b>   | France                 |  |            |     |     |       |     |
| <b>Street</b>  | 16, rue de Saint Exupéry – ZA de l'Aérodrome |  |               | <b>Website</b>   | www.sonnenkraft.fr     |  |            |     |     |       |     |
| <b>Postal Code</b>   | 67500  | HAGUENAU (France)  |               | <b>E-mail</b>  | france@sonnenkraft.com |  |            |     |     |       |     |
|  |  |  |               | <b>Tel. / Fax</b>                                      | 00 33 (0)3 90 59 05 20 |  |            |     |     |       |     |
| <b>System family overview</b>  |  |  |               |  |                        |  |            |     |     |       |     |
| For each storage and collector size, give number of collectors   |  |  |               |  |                        |  |            |     |     |       |     |
| <b>Collector name</b>  | DHW 300 – PR2                                |  | DHW 400 – PR2 |  |                        |  |            |     |     |       |     |
| SKR 500  | 2  |  | 2             | 3  |                        |  |            |     |     |       |     |
|  |  |  |               |  |                        |  |            |     |     |       |     |
|  |  |  |               |  |                        |  |            |     |     |       |     |
|  |  |  |               |  |                        |  |            |     |     |       |     |
| <b>Name of system configuration</b>  |  |  |               | CPE300PR2/R2-O   |                        |  |            |     |     |       |     |
| <b>Collector name</b>  | SKR 500                                      | <b>No. Collectors</b>  | 2             | <b>Storage name</b>                                    | DHW 300 – PR2          |  |            |     |     |       |     |
| <b>Calculated annual results</b>   |  |  |               |  |                        |  |            |     |     |       |     |
| <b>Location</b><br>Standort<br>Sites   | <b>Daily draw-off (litres/day)</b>           |  |               |  |                        |  |            |     |     |       |     |
|  | 170  | 200  | 250           | 170  | 200                    | 250                                      | 170        | 200 | 250 |       |     |
|  | l/d  | l/d  | l/d           | l/d  | l/d                    | l/d                                      | l/d        | l/d | l/d |       |     |
|  | Qd kWh/y                                     |  |               | Qaux,net kWh/y   |                        |  | Qpar kWh/y |     |     |       |     |
| Stockholm SE   | 2 637  | 3 101  | 3 872         | 1 200  | 1 323                  | 1 454                                    | 104        | 104 | 104 |       |     |
| Würzburg DE  | 2 532  | 2 970  | 3 714         | 1 025  | 1 156                  | 1 279                                    | 104        | 104 | 104 |       |     |
| Davos CH   | 2 856  | 3 364  | 4 205         | 606  | 733                    | 946                                      | 104        | 104 | 104 |       |     |
| Athens GR  | 1 962  | 2 313  | 2 891         | 315  | 391                    | 489                                      | 104        | 104 | 104 |       |     |
| Nice FR  | 2 006  | 2 365  | 2 952         | 287  | 365                    | 477                                      | 104        | 104 | 104 |       |     |
|  |  |  |               |  |                        |  |            |     |     |       |     |
| <b>Perf. indicators for the table above</b>  |  |  |               |  |                        |  |            |     |     |       |     |
| Qd   | kWh/y  | <b>Heat demand</b>   |               |  |                        |  |            |     |     |       |     |
| Qaux,net   | kWh/y  | <b>Auxiliary heat (back-up heat needed)</b>                      |               |  |                        |  |            |     |     |       |     |
| Qpar   | kWh/y  | <b>Electricity for pumps/controllers</b>                         |               |  |                        |  |            |     |     |       |     |
| <b>Ref. conditions</b>   |  | Stockholm SE   | Würzburg DE   | Davos CH   | Athens GR              | Nice FR                                  |            |     |     |       |     |
|  | G  | 1 157  | 1 230         | 1 684  | 1 718                  | 1 735                                    |            |     |     |       |     |
|  | Ta   | 7,5  | 9,0           | 3,2  | 18,5                   | 15,3                                     |            |     |     |       |     |
|  | Tc   | 8,5  | 10,0          | 5,4  | 17,8                   | 17,2                                     |            |     |     |       |     |
|  | ± ΔTc  | 6,4  | 3,0           | 0,8  | 7,4                    | 7,4                                      |            |     |     |       |     |
| G  | kWh/m <sup>2</sup>                           | <b>Annual irradiation South, 45°</b>                             |               |  |                        |  |            |     |     |       |     |
| Ta   | °C   | <b>Annual mean air temperature</b>                               |               |  |                        |  |            |     |     |       |     |
| Tc   | °C   | <b>Annual mean cold water temp.</b>                              |               |  |                        |  |            |     |     |       |     |
| ΔTc  | °C   | <b>Seasonal variation of Tc</b>                                  |               |  |                        |  |            |     |     |       |     |
| Th   | 45 °C  | <b>Desired hot water temperature (mixing valve temperature).</b> |               |  |                        |  |            |     |     |       |     |
| <b>Max. operating press. - collector side</b>  |  |  |               | 1 000  | kPa                    | <b>Max. operating press. - tank side</b> |            |     |     | 1 000 | kPa |
| <b>Testing Laboratory</b>  |  |  |               | BELENOS  |                        |  |            |     |     |       |     |
| <b>Website</b>   |  |  |               | www.belenos.pro  |                        |  |            |     |     |       |     |
| <b>Test report id. number</b>  |  |  |               | R11L1009/002, R11L1009/004, R11L1009/007, R11L1009/008 |                        |  |            |     |     |       |     |
| <b>Date of test report</b>   |  |  |               | 21/12/2012, 21/12/2012, 10/04/2013, 10/04/2013         |                        |  |            |     |     |       |     |
| <b>Test method</b>   |  |  |               | ISO 9459-5 (DST)                                       |                        |  |            |     |     |       |     |
| <b>Comments of test lab</b>  |  |  |               |  |                        |  |            |     |     |       |     |
| No comment   |  |  |               |  |                        |  |            |     |     |       |     |
| Centre d'Essais de recherche Solaire<br><b>belenos</b> 190 rue Georges Besse<br>30000 NIMES<br>Tél. 04 66 38 89 25 - Fax 04 66 04 03 87<br>Siret 512 914 292 00016 - RCS Nîmes - NAF 7490B |  |  |               |  |                        |  |            |     |     |       |     |

All values are subject to some uncertainty; e.g. the uncertainty on system output is typically in the range of ±5 % to ±15 %

Version 2.3, 2013-03-04

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CERTITA 04/2013

