Solar Keymark Network

Experience exchange circle of test labs, certifiers and inspectors
working according to the Solar Keymark scheme rules

Final Minutes

13. Solar Keymark Network Meeting
September 5th – 6th, 2012; Madrid, Spain

Item 1: Opening of the meeting

The chairman of the Solar Keymark Network (SKN), Harald Drück, opened the meeting and welcomed the participants. He thanked Jaime Fernandez Gonzalez-Granda from AENOR for hosting the meeting. Furthermore he thanked Jan Erik Nielsen as the Secretary of the Solar Keymark Network, for the excellent preparation of the meeting.

Harald Drück gave a short explanation about the Solar Keymark Network. The main task of the SK-Network is to agree on uniform procedures between the different institutions (accredited solar thermal test labs, certifiers, inspectors and manufacturers) working according to the Solar Keymark scheme rules as well as the further development of Solar Keymark certification in particular and certification of solar thermal products in general.

The working rules of the Solar Keymark Network (SKN) are described in the "Solar Keymark Network Internal Regulations" (Document SKN_N0102.R6)

The meeting took place from Wednesday, September 5th, 2012, 13:00 hrs till Thursday September 6th, 2012, 13:25 hrs at the premises of AENOR in Madrid.

The first invitation including the first draft agenda (Document SKN:N0199R0) of the meeting was sent out by email from Jan Erik Nielsen dated July 6th, 2012.

Jaime Fernandez Gonzalez-Granda from AENOR also welcomed the participants and gave some practical information concerning the meting and the side events such as the common dinner in the evening and the lunch on Thursday.

Harald Drück mentioned the **concept related to resolutions and decisions** implemented at the last SKN meeting.
Resolutions directly influence the Solar Keymark specific scheme rules (document SKN_N0106) and the Solar Keymark network internal regulations (document SKN_N0102) and hence shall be implemented in the next version of them.
Decisions are other important agreements achieved on the meeting that have to be included in the latest version of the Solar Keymark decision list (document SKN_N0100).

Item 2: Introduction of participants

The participants introduced themselves and mentioned their nominating organisation or institution respectively. The list of participants that attended the meeting is attached as Annex A.

As a result of the large number and broad spectrum of participants present the voting preconditions according to clause 4.2 of the Solar Keymark Network internal regulations (Document SKN_N0102R6) are fulfilled.

Item 3: Approval of the agenda

Following the first draft agenda (Document SKN_N0199R0) send out on July 6th, 2012 in the last weeks updated versions of draft agenda as well as documents related to the items mentioned on the agenda were send out and were also available via the Solar Keymark Internet site. The latest version of the agenda was named “13th Solar Keymark Network meeting - revised final draft agenda (rev 5)” document SKN_N0199R5 dated 24/08/12 and send out on September 3rd, 2012.

The revised final draft agenda was shortly discussed and small modifications were made.

The final agenda including the small modifications is available via the Solar Keymark website as document number SKN_N0199R6.

Item 4: Comments and final approval of the minutes of the 12. SKN meeting

Harald Drück mentioned that the minutes of the 12th Solar Keymark Network meeting (File: SKN_N0198R0.pdf) were elaborated by him, checked by Jan Erik Nielsen and proof read by Maria João Carvalho. He thanked both of them for their work.
The minutes were sent out by email dated April 24th, 2012 by Jan Erik Nielsen.

Within the 30 days following the send out of the minutes the following comments where received:

Comment 1 (from Jean-Marc Sutter, Switzerland):

Fra: Jean-Marc Suter [mailto:suter@suterconsulting.com]
Sendt: 24. april 2012 14:35
Til: 'Jan Erik Nielsen'
Emne: RE: SKN - Minutes of 12th meeting

Dear Jan Erik,

Thank you very much for the circulation of the Minutes. I appreciate to be able to read them and get in this way important information on ongoing activities that have some influence on the standardization within CEN and ISO. As the Chairman of the Swiss mirror committee, I have to follow what SKN decides. Of course, Andreas Bohren is a member of SKN. However, “first hand” information is always better and more precise.

Now, regarding the Minutes, I have some minor editorial comments:

- The term “custom built systems” shall be written correctly with a t (not a d) at the end of the word “built”. I know that German people often make the confusion. Therefore, I explain the difference as follows: “built” is like “gebaut”, “build” is like “bauen” in German. And of course the first one is correct. See EN 12977-1 to -5.
- Item 17: there is a reference to Item 18, but Item 18 deals with a total different topic. Evidently, this reference is wrong.
- Page 21, line 2: the word “form” should be changed to “from”.

Best regards
Jean-Marc

Actions: In the minutes of the 12th SKN meeting (File: SKN_N0198R0.pdf)
-“custom build” will be changed to “custom built”
- at Item 17 the reference will be changed from “Item 18” to “Item 8)
- on page 21, line 2: the word “form” is be changed to “from”.

Comment 2 (from Vinod Sharma, Italy):

Fra: sharma [mailto:sharma@enea.it]
Sendt: 24. april 2012 14:30
Til: Jan Erik Nielsen
Emne: Re: SKN - Minutes of 12th meeting

Dear Erik,

Please note that my surname in the list of participants who attended the meeting (annex 1) is not correct. Is it possible to correct it, please, of course, if not very inconvenient.

Thanks and regards, in anticipation.

Vinod

Actions: - surname is corrected

Comment 3 (from Wolfgang Eisenmann, Germany):

Von: Wolfgang Eisenmann [mailto:Wolfgang.Eisenmann@wagner-solar.com]
Gesendet: Donnerstag, 26. April 2012 14:05
An: Harald Drueck
Cc: Jan Erik Nielsen
Betreff: AW: SKN - Minutes of 12th meeting

Dear Harald, dear Jan Erik,
thank you for the minutes, which are in my opinion of a very good quality.
I have two minor editorial remarks on the minutes.

1) Item 17: I think the text should say: "This topic was already dealt with under item 8"
   [instead of "...item 18].

2) p. 21, second row of text: "form" should read "from".

Best regards
Wolfgang

Actions: - at Item 17 the reference will be changed from “Item 18” to “Item 8)
- on page 21, line 2: the word “form” is be changed to “from”.

Comment 4 (from Aleksandar D. Prodanov, the former Yugoslav Republic of Macedonia):

> -----Ursprüngliche Nachricht-----
Von: Aleksandar D. Prodanov [mailto:aprodanov@meteo.gov.mk]
Gesendet: Dienstag, 22. Mai 2012 15:57
An: drueck@itw.uni-stuttgart.de; Jan Erik Nielsen
Betreff: Comment to the minutes of SKN - Minutes of 12th meeting

Dear Harald and Jan,

I have a comment on Item 4 of the last meeting minutes.

Kostas Lampadarios from Elot wrote:

„… Please note that according to the current decisions of United Nations and of EU parliament, as well as clearly mentioned in ISO3166-1, this country (the former Yugoslav Republic of Macedonia) has to be reported as F.Y. R. O. M. in any international or EU meeting, as well as in CEN and CENELEC…“

As a follow up of the meeting in Berlin, I have looked at standard ISO 3166-1 and found the following:

According to standard ISO 3166-1: „Codes for the representation of names of countries and their subdivisions -- Part 1: Country codes“, for the country where I come from is written (this can be seeing at page 21):
„COUNTRY NAME English short name: MACEDONIA, THE FORMER YUGOSLAV REPUBLIC OF English short name lower case: Macedonia (the former Yugoslav Republic of) English full name: the former Yugoslav Republic of Macedonia
Alpha-2 code: MK
Alpha-3 code: MKD „

As you can notice, the guidelines in the standard do not mention there is F.Y.R.O.M. (or FYROM).

As a result of this, I would like instead F.Y.R.O.M. to write or use the names that I have mentioned above (please refer to ISO 3166-1).

Best regards,
Aleksandar D. Prodanov

Action: (performed by Harald Drück on May 23rd, 2012)

Von: Harald Drueck [mailto:drueck@itw.uni-stuttgart.de]
Gesendet: Mittwoch, 23. Mai 2012 09:27
An: 'Aleksandar D. Prodanov'; 'Jan Erik Nielsen'
Betreff: AW: Comment to the minutes of SKN - Minutes of 12th meeting

Dear Alexandar,

thanks for the Info.
Can you please discuss the Subject with the colleagues from Greece and agree on one final way how we should mention your country in future Solar Keymark Network minutes.

Best regards,

Harald

Answer:

-----Ursprüngliche Nachricht-----
Von: Aleksandar D. Prodanov [mailto:aprodanov@meteo.gov.mk]
Gesendet: Dienstag, 4. September 2012 22:24
An: Harald Drueck
Cc: 'Jan Erik Nielsen'; 'Pedro Dias'
Betreff: Re: AW: Comment to the minutes of SKN - Minutes of 12th meeting

Dear Harald,

I discuss the Subject with the colleagues from Greece and we agree that in future Solar Keymark Network minutes country that I come from to be addressed with the full name:

the former Yugoslav Republic of Macedonia

(the words „the“ and „former“ is write in small letter), as is write, according the standard ISO 3166-1: „Codes for the representation of names of countries and their subdivisions -- Part 1: Country codes“
(this can be seeing at page 21).

Best regards,

Aleksandar

The proposal of Aleksandar D. Prodanov was accepted.

Due to the changes mentioned above the document SKN_N0181R1 results as the revised version of the minutes. Harald Drück asked for approval of this version as the minutes.

The final minutes of the 12th Solar Keymark Network meeting (Document SKN_N0199R1) were unanimously finally approved by the participants present.

Note: The final version of the minutes will be send out by Jan Erik Nielsen in the coming days.

Item 5: Date & place of next Solar Keymark Network (SKN) meetings

The **14th SKN meeting** (spring 2013 meeting) is scheduled for

March 12th 13:00 hrs to March 13th 14:00 hrs, 2013 (end of day one at 19:00 hrs)

at the premises of SP headquarters at Boras, Sweden based on an invitation from Martin Persson.

The **15th SKN meeting** (autumn 2013 meeting) is scheduled for

October 1st 13:00 hrs to October 2nd 14:00 hrs, 2013 (end of day one at 19:00 hrs)

in Berlin, Germany based on an invitation of Sören Scholz.

Item 6: Revised procedure for equivalent absorber coatings

Since the requirements for considering coatings as equivalent were not formulated precise enough, some discussions took place related to their improvement. During the discussion of the proposed changes in documents SKN_N0137R6 and SKN_N0137R7 some more modifications were performed leading to document SKN_N0137R8. Based on this document the following resolution was made:

Resolution R1.M13 – Procedure for equivalent absorber coatings

The procedure for considering absorber coatings as equivalent as specified in document SKN_N0137R8 was approved and shall be included (together with a figure to be elaborated by Jan Erik Nielsen for clarification of the issue) in document SKN_N0106.R17 (draft specific scheme rules) together with other agreed changes.

This resolution was taken with 0 negative votes and 5 abstention.

Item 7: New Absorber coatings to be considered as equivalent

No new absorber coatings to be considered as equivalent were presented at the meeting.

Item 8: New Glazing to be considered as equivalent

No new glazing to be considered as equivalent were presented at the meeting.

Item 9: Brand names / OEM /OBL

At the 11th Solar Keymark Network meeting the topic related to different brand names in Solar Keymark certificates was intensively discussed but not finally solved. Due to this a working group consisting of the following persons was established:

Sören Scholz (Chair), Ralf Köbbemann-Rengers, Christian Stadler, Pedro Dias, Costas Travasaros, François-Xavier Ball, Vincenzo Delacqua, Jaime Fernandez Gonzalez-Granda.

The group of certification bodies elaborated document SKN_N0193R0. The document was presented by Sören Scholz and discussed at the 12th Solar Keymark Network.
Since the document covers a relative broad spectrum of aspects it was not felt appropriate to make a decision directly referring to this document.

Hence the working group was asked to prepare for the next meeting a proposal for a modified version of the Solar Keymark Specific Scheme Rules taking into account the relevant aspects related to “brand names / OEM / OBL”. Furthermore this document should provide clarification concerning the changes related to licence fees to be paid to CCB and SKN resulting from the potential changes e.g. related to type and subtype definitions. This cost estimation should be elaborated for different scenarios (e.g. small and large manufacturer)

Based on this document a vote will be performed at the 14th Solar Keymark Network.

Since for the 13th Solar Keymark Network no document was available, no resolution related to this topic was made. Sören Scholz explained the reasons for this. It was agreed that the issue should be discussed again within the group of certifiers taking into account input from manufacturers and ESTIF. This was done and as the result Sören Scholz mentioned the following questions to be answered by the working group and the group of certifiers:

- What are the minimum required documents for OEM and OBL labelling?
- Is it possible that OEM and OBL certificate holders apply for an other OBM/OBL certificate based on an existing one?
- Validity period: Shall this be the same as in the original certificate?
- Format of datasheets? If a new certificate is based on an old one with only one page, should the new one than have also only one page or two pages as status today?
- What fee should be charged?
- How to deal with surveillance procedures?
- What happens with the OEM/OBL certificates if the holder of the main certificates cancels his certificate or if his certificate is cancelled?

It was agreed that the working group consisting of the above mentioned persons shall elaborate a document providing answers to the questions mentioned above to be presented at the next meeting.

Note: OEM Original Equipment Manufacturer
OBL Original Brand Labelling

Item 10: SK scheme rules for PV/T collectors

At the last Solar Keymark Network meeting an intensive discussion about the aspects related to PV/T collectors, especially also with regard to the aspects of CE marking took place.

Since the discussion showed that the subject is quite complex it was not possible to elaborate during this meeting a consensus. Hence a working group consisting of the following persons was established.

Uli Fritzsche (Chair), Joakim Bynström, Sören Scholz, Korbinian Kramer, Marco Trionfetti, Giovanni Bellenda. Carsten Lampe, João Santos.

The task of this working group was to elaborate a modified version of the Solar Keymark scheme rules including Solar Keymarking of PV/T collectors as a basis for a resolution at the 13th Solar Keymark Network meeting.

Since a modified version of the Solar Keymark scheme rules including Solar Keymarking of PV/T was not available for this meeting, no resolution could be made.

Uli Fritzsche as the chair of the WG explained that he did not push the group enough. Since the topic is still considered as relevant it was agreed to re-start the working group. In this context it was also proposed to involve additionally Hoang Liauw from CEN in this activity. The working group was asked to prepare an adequate proposal of a modified version of the Solar Keymark scheme rules including Solar Keymarking of PV/T as a basis for a resolution at the 14th SKN meeting.

Uli Fritzsche promised to be active related to this activity next week.

Item 11: List of documents required by certification bodies

Following the discussion at the 9th SKN meeting Costas Travasaros prepared document SKN_N0165R0 entitled “ List of documents Required by Certification Bodies”

The document should already have been discussed at the 11th SKN meeting, but since Costas Travasaros could unfortunately not attend the meeting due to a strike in Greece it was decided to postpone this topic to the 12th SKN meeting. Since Costas Travasaros was not present, the topic was postponed again and it is intended to be discussed it at the 13th SKN meeting.

Unfortunately Costas Travasaros was also not present at the 13th SKN meeting.

Since the present manufacturers did not see any further need for this list of documents it was decided to consider this topic not any more as relevant. Hence it was agreed that it will not any more appear on the agendas of further Solar Keymark network meetings.

Item 12: Internal checks of certification bodies, inspectors and test labs

In order to improve the quality of the work performed by test laboratories, certification bodies and inspectors it is helpful to perform internal checks or audits of this organisations.

In order to elaborate procedures and material for internal checks of **test labs** (and sub contractors) a working group was established at the 12th SKN meeting. The task of the group

was to elaborate strategies and material for internal checks or audits of test labs and present them at the next SKN meeting.

Andreas Bohren as the chair of the group explained that he did send out a questionnaire related to “incorrect points and problems related to Solar Keymark certification” and a proposal for the establishment of a “group of experts” deciding on open questions and elaborating proposals how to avoid such incorrect points and problems in the future. Unfortunately Andreas Bohren did only get minimal input which might be due to the fact that the request was send out just before the summer holidays.

Andreas Bohren presented a summary with “incorrect points and problems related to Solar Keymark certification”. The points as well as the consequences resulting from this summary were discussed. Finally it was decided that the working group chaired by Andreas Bohren shall agree on a strategy how to deal with problems related to Solar Keymark certification and present this strategy to the Solar Keymark network. After an ad-hoc meeting the working group proposed the following two actions:

- Preparation of a description of the currently available procedures for complaining within the next month. This procedure will be posted to the Solar Keymark website. This will also provide information where to post the complains.
- Andreas Bohren and his group will elaborate a proposal for a procedure dealing with complains. The proposal will be presented at the next SKN meeting. A key element of this will be a so-called “board of advise” acting as a clearing body.

The tasks mentioned above will be performed by a working group consisting of the following persons:
Andreas Bohren (Chair), Stephan Fischer, Uli Fritzsche, Sören Scholz, Danjana Theis, Jef Profke, Vinod Shama, Stefan Mehnert, Henry Rosik, Stamatios Babalis, Julien Heintz, Alberto Garcia, Franz Helmlinger, Jaime Fernandez Gonzalez-Granda, Carsten Lampe, Harald Dehner, Achim Sadenwater

Item 13: Factory Production Control and ISO 9001 requirements

A proposal of a resolution for a new annex to be included in the Solar Keymark Scheme Rules describing the ‘’Factory Production Control and ISO 9001 requirements for Solar Keymark for collectors” the document SKN_N0178R5 (ANNEX E FACTORY PRODUCTION CONTROL BASED ON ISO 9001 STANDARD COVERING THE PRODUCTION LINE) was elaborated by a working group consisting of the following persons:

Jaime Fernandez Gonzalez-Granda (Chair), Alberto Garcia de Jalon, Carsten Lampe, Christian Stadler, Francois Xavier Ball, Franz Helminger, Henry Rosik, Ralf Koebbemann-Rengers, Reuven Godali, Stefan Mehnert, Stephan Fischer, Ulrich Fritzsche and Wolfgang Eisenmann

Furthermore the justification as well as a proposal for a corresponding resolution is described in document SKN_N0200R0.

After a presentation of document SKN_N0200R0 and SKN_N0178R5 and a short discussion the following resolution was made:

Resolution R2.M13 – Factory Production Control and ISO 9001 requirements

In the Solar Keymark scheme rules (Document SKN_N0106R16) in clause 5 (Factory production control and initial inspection of manufacturing site) the sentence “The quality management system shall cover the production line according to inspectors criteria” shall be changed to “The quality management system shall cover the production line according to inspectors criteria. In the case of collectors, the requirements are specified in Annex E ”

The procedure for factory production control based on ISO 9001 standard as described in document SKN_N0178R5 is accepted and shall be included in document SKN_N0106.R17 (draft specific scheme rules) together with other agreed changes as Annex E. This Annex is at present informative and will become normative at 1st of January 2014.

Based on the experience gained and the comments received in the meantime the annex E might be revised before becoming normative.

This resolution was taken with 0 negative votes and 3 abstention.

Item 14: Sanctions against absent representatives

Jan Erik Nielsen presented the aspect of sanctions against absent representatives obliged to participate in the SKN meetings.

In this context he reported about “Decision D12.M10 – Participation at Solar Keymark network meetings “. This decision is as follows:
In case of two absences in a row of bodies and representatives obliged to participate in the Solar Keymark network meetings a decision will be made related to require participation at the next meeting and sanctions if this is not the case.

As extremely critical the following two test labs were identified since they did not participate in the Solar Keymark Network meetings for quite a long time:

ITC (ES) recognised by AENOR (ES)

Pa.L.Mer. (IT) recognised by ICIM (IT).

It was agreed to ask the certification bodies to contact “their” test labs and inspectors mentioned above and to oblige them to participate at the next meeting. Furthermore the following decision was made

Decision D1.M13 – Sanctions related to ITC and Pa.L.Mer

It is required that representatives of the following test labs are present at future Solar Keymark network meetings:

ITC (ES) recognised by AENOR (ES)

Pa.L.Mer. (IT) recognised by ICIM (IT).

In case representatives from the test labs mentioned above are not present at the next SKN meeting the respective certifiers (AENOR and ICIM) shall cancel their contracts. Furthermore these two test labs are excluded to perform Solar Keymark certification activities.

This decision was taken with 2 negative votes and 7 abstention.

In addition is was agreed to establish a working group consisting of the following persons:

Sören Scholz (Chair), Jaime Fernandez Gonzalez-Granda, Allard Slomp, Harald Drück, Daniele Bernacchioni, François-Xavier Ball

The task of the working group is to elaborate a modified version of the Solar Keymark network internal regulations that includes sanctions against absent representatives obliged to participate in the SKN meetings. This modified version of the Solar Keymark internal regulations shall be the basis for a resolution to be made at the next SKN meeting.

Item 15: Guide – Preparation of “Physical inspection reports”

At the 12th SKN Meeting Stefan Mehnert presented document SKN_N0195R0 with a guide for the preparation of „physical inspection reports“ for Solar Thermal products according to the Solar Keymark scheme rules.

This document gives a brief description of the procedure of the so called “Physical Inspection” as mentioned in section 6 Surveillance within the Specific CEN Keymark Scheme Rules for Solar Thermal Products, Version 13.01, January 2012 to be carried out by the inspectors of Solar Keymark empowered certification bodies.

After a presentation of the document and a short discussion it was agreed that comments related to the document should be submitted to Stefan Mehnert until July 1st, 2012 and that based on this comments Stefan Mehnert elaborated a revised version of the Guide for the preparation of “physical inspection reports” as a basis for a resolution during the next Solar Keymark Network Meeting. This revised version is now available as document SKN_N0106R5annexA2-R1.

Harald Drück thanked Stefan Mehnert and Korbinian Kramer for the elaboration of the document. Since Stefan Mehnert was not present Korbinian Kramer presented and explained the document. The document was discussed and some changes were performed resulting in document SKN_N0106R5annexA2-R2. Finally the following resolution was made:

Resolution R3.M13 – Preparation of “Physical inspection reports”

The procedure for the preparation of physical inspection reports as described in document SKN_N0106R5annexA2-R2 (ANNEX A2. SOLAR KEYMARK SURVEILLANCE TEST) is accepted and shall be included in document SKN_N0106.R17 (draft specific scheme rules) together with other agreed changes as informal Annex A2.

This resolution was taken with 0 negative votes and 1 abstention.

Item 16: SKN Budget for 2013 and other financial issues

Jan Erik Nielsen presented document SKN_N0201R0 (Solar Keymark Network - total administration budget 2013) and SKN_N0202R0 (Solar Keymark Network fee income). In this context he mentioned that the Solar Keymark Network fee was not changed.

Note: By presenting document SKN_N0201R0 (Solar Keymark Network - total administration budget 2013) Jan Erik Nielsen discovered an minor error leading to the corrected document SKN_N0201R1.

Pedro Dias presented document SKN_N0203R0 (Budget for services provided by ESTIF to the Solar Keymark Network).

The documents were discussed and the following decision was made.

Decision D2.M13 – SKN Budget for 2013

The budget of the SKN for 2013 as specified in document SKN_N0201R1 (Solar Keymark Network - total administration budget 2013) and the fees for Solar Keymark certification as specified in SKN_N0202R0 (Solar Keymark Network fee income) is accepted.
The services and the related budget offered by ESTIF as described in document SKN_N0203R0 (Budget for services provided by ESTIF to the Solar Keymark Network) are accepted.

This decision was taken with 0 negative votes and 0 abstention.

Item 17: Various thickness of cover glasses

Martin Peterson from SP raised the question how to deal with the case if manufacturers of a building integrated flat plate collector (working as a glass facade) wants to be able to supply collectors with various thickness of the cover glass to their customers to fit various mechanical loads and frames?
The thicknesses range from 4 mm up to 20 mm depending on the customer’s demands.

After a short discussion of the subject the following resolution was made.

Resolution R4.M13 – Various thickness of cover glasses

In chapter 4.2 (Collector “families”) of the document SKN_N0106.R16 the following addition will be included, together with other agreed changes, resulting in SKN_N0106.R17(draft specific scheme rules):

Addition
If the manufacturer produces the same collector with various thickness of the cover glass (i.e. the only difference between two collectors is the thickness of the glass) the collector is considered as the same subtype (within the same collector ―family). In this case sample(s) of the collector with the thinnest cover glass and sample(s) of the collector with the thickest cover glass shall be taken and tested. The collector(s) with the thinnest cover glass shall be subject to all the tests required in EN 12975-1 clause 5.2, and the collector(s) with the thickest cover glass shall be subject to a thermal performance test (clause 6 of EN 12975-2). The performance figures used for this type shall be the performance figures corresponding to the measured instantaneous efficiency having the lowest integral in the interval of the reduced temperature from 0 – 0.1 K/(W m²). In other words, the efficiency curve used for this subtype shall be the one embracing the smallest area.

This resolution was taken with 0 negative votes and 0 abstention.

Item 18:Freeze resistance test

At the 11th SKN meeting Ulrich Fritzsche gave a presentation on freeze resistance testing of solar thermal collectors (Document SKN_N0166R0) and a discussion related to a decision took place. Since there are still too many open questions it was decided to establish a working group to investigate the issue and to prepare a proposal for a resolution at the next SKN meeting.

The WG consists of the following persons:

Ulrich Fritzsche (chair), Stephan Fischer, Carsten Lampe, Alberto Garcia de Jalon, Bellenda Giovanni, Maria João Carvalho

Ulrich Fritzsche presented the results of the SCF funded project HP_Qual by means of the presentation attached as Annex B.

It was agreed to elaborate based on the results of the HP_Qual project a proposal for a resolution at the next SKN meeting.

Item 19: Factory inspection report + Guide to factory inspection report

Stephan Fischer presented document SKN_N0132R2 (Solar Keymark factory inspection report) as a proposal for a modified version of Annex A1 of the Solar Keymark scheme rules and document SKN_N0204R0 (Guide to the Solar Keymark Factory Inspection Report).

The document SKN_N0132R1 was discussed and some changes were performed resulting in document SKN_N0132R2. Finally the following resolution was made:

Resolution R5.M13 – Factory inspection report

The existing version of annex A1 of the Solar Keymark Scheme rules is replaced by the modified version represented by document SKN_N0132R2 (Solar Keymark factory inspection report). The corresponding changes shall be included, together with other agreed changes, in document SKN_N0106.R17 (draft specific scheme rules).

This resolution was taken with 0 negative votes and 0 abstention.

The guide to the Solar Keymark Factory Inspection Report (Document SKN_N0204R0) was discussed and slightly modified resulting in document SKN_N0204R1. Furthermore the following decision was made:

Decision D3.M13 – Guide to Solar Keymark Factory Inspection Report

The guide to the Solar Keymark Factory Inspection Report (Document SKN_N0204R1) will be made available at the Solar Keymark website.

This decision was taken with 0 negative votes and 0 abstention.

Item 20: Treatment of certificates from manufacturers not existing any more

João Santos presented the following issue :
(Mr. “X” and company “Y” introduced by SKN secretary)

Quite recently, we were informed by Mr. “X” that his company “Y” formally had gone out of business and consequently, ceased trading, as of last July 31st. As the client had no pending payments, if it was not for the information we had received, most likely, it would have passed some time until we had knowledge of the situation.

According to our internal procedures, the valid certificate will be subject to suspension and consequently withdrawn. Taking in consideration SK procedures, that information will be sent to SK Secretariat at the beginning of next month, together with any certificates which have been issued or withdrawn by CERTIF during this month.

However, I would like to emphasize, that perhaps, this situation could be subject to some discussion at a SK Plenary Meeting (and/or at a Certification Bodies Meeting), because:

- *An harmonized procedure should be applied by the different Certification Bodies;*
- *We have found that it is not simple to get the information on time about the occurrence of these situations when the customers are from another country in Europe, and it is even more difficult if they are from outside Europe.*

I hope these explanations clarify our policy regarding these situations and are helpful for SKN.

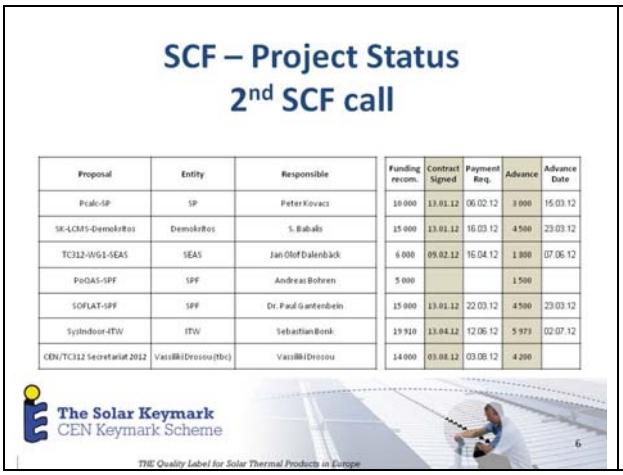
The issue was discussed and it was agreed that it is not possible to define a general and practical procedure to solve this kind of problems. In case where clarification is needed appropriate procedures shall be elaborated within the group of certifiers. Andreas Bohren mentioned that with regard to this aspect also the issue of OEM and OBL certificates should be taken into account.

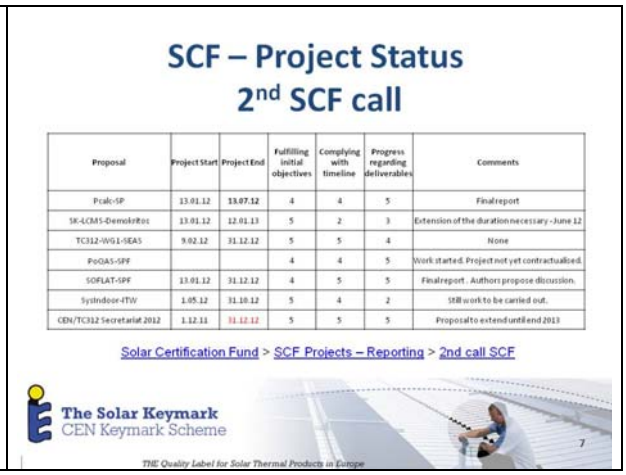
Item 21: Solar Certification Fund - 1st Call – status report

Pedro Dias gave an overview about all projects supported by the Solar Certification Fund (SCF) as well as the corresponding budget allocated for them so far and informed about thoughts for improvements as well as about the current status of the projects funded by the 1st SCF Call by means of the presentation included as Annex C. After the presentation some questions were asked by some participants and answered by Pedro Dias.

Item 22: Solar Certification Fund – 2nd Call – status report

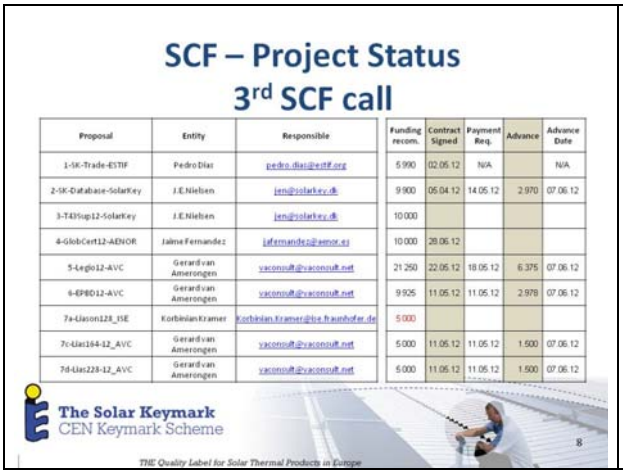
Pedro Dias informed about the current status of the projects funded by the 2nd SCF Call by showing the following two slides.





Item 23: Solar Certification Fund – 3rd Call – status report

Pedro Dias informed about the current status of the projects funded by the 3rd SCF Call by showing the following two slides.



Harald Drück thanked Pedro Dias of the huge amount of work he and his colleagues at ESTIF are performing in an highly professional way.

Note: Further information about the status of all SCF funded projects will be available through the “QAiST discussion board” in the Internet.

Item 24: Solar Certification Fund – 4th Call – ideas

Jan Erik Nielsen and Harald Drück mentioned that the next call for the projects funded by the Solar Certification Fund will be launched on October 15th, 2012 with deadline November 30th, 2012.

The following activities were proposed to be included in the 4th SCF call

- Co-financing of an operating agent for the extension of IEA SHC Task 43 “Solar Rating and Certification” (with focus on global certification)
- Establish an “Annual output indicator” for solar water heater stores
- Further development of global certification
- Elaborating surveillance test procedure
- Harmonisation of boundary conditions for performance prediction and development of a tool for automatic generation of EN 12976 data sheets based on DST calculation results
- Financing of TC 312 WG1 secretariat
- Further development of the SK specific scheme rules annex E (factory production control based on IS0 9001 standard covering the production line)
- Development of easy to use and precise tool for performance prediction of systems
- Global review of existing performance prediction and system rating tools. One main aspect with regard to this review is the simplicity of the tool.
- Elaboration of a benchmark test for system performance calculation tools
- Round robin test of domestic hot water stores acc. to EN 12977-3
- Round robin test of custom built systems acc. to EN 12977
- Elaboration of a data sheet for custom built systems acc. to EN 12977 series
- Procedure for considering thermal insulation material as equivalent
- Calculation of the uncertainty of the performance figures of solar collectors and systems based on the results obtained by the QAiST round robin test
- ... any other good ideas

The ideas listed above will serve as a basis for the 4th SCF Call to be elaborated by the SCF. Proposers of the topic listed above are encouraged to precise their proposals by sending more detailed information. Preferably this input should be in such a way that it can directly be used as the call text.

Provided the amount required for financing of high quality proposals exceeds the available budget a decision of the funded projects will be made based on priorities.

Note: The next physical **meeting of the Solar Certification Fund Steering Group** will take place at **Brussels on January 14th, 2013 at 11:00 hrs** at the Renewable Energy house.

Item 25: Keymark on thermal insulation materials and equivalency of thermal insulation material

Jan Erik Nielsen mentioned that a Keymark for thermal insulation materials exists. Furthermore he proposed to include the topic of “procedure for considering thermal insulation material as equivalent” in the list of topics for the 4th SCF call.

In addition Sören Scholz provided the following information:

- General information related to quality assurance: www.qac-info.org
- Information related to Keymark for thermal insulation products: www.key-mark.org
- Keymark-conference at Brussels on March 20th and 21st, 2013.

Item 26: Information on CE marking

CPD - Construction Products Directive (Stephan Fischer)
Stephan Fischer mentioned that in spring 2012 a proposal for a modified version of EN 12975-1 was handed in to a new so-called CEN CPD consultant. The CEN CPD consultant mentioned during a meeting on June 28, 2012 with him, Pedro Dias and Jan Erik Nielsen, that this version was based on the wrong mandate. Stephan Fischer presented a list of topic to be considered for elaborating a modified version of EN 12975-1 based on the correct directive.
Further information is available from the notes of this meeting. They will be made available to the SKN as document SKN_N0206R0 (CE-marking of solar thermal products – meeting with EC – 28 June 2012, 2012-04-28, pd/je).
A discussion took place, especially concerning the aspect of “dangerous substances”. It was agreed to focus with regard to this a procedure based on self-declaration by the manufacturer.
Henry Rosik mentioned that in the future the CPD will be replaced by the CPR (Construction Products Regulations)

LVD Low voltage directive (Stephan Fischer)
Stephan Fischer mentioned that with regard to the LVD the index ZB is already included in the draft version of the standard circulated to the SKN. This approach was accepted by the CEN consultant.

PED Pressure equipment directive (Jan Erik Nielsen)
Jan Erik Nielsen reported about a document related to classification of solar thermal collectors according to the PED. This document expresses the common understanding of the CEN PED consultant and ESTIF on how to deal with CE marking related to PED of collector modules. The document can act as a temporary guideline for manufacturers in this matter.
Furthermore he mentioned that this document was up to now only circulated within ESTIF but will be now also made available to the SKN as document number SKN_N0207R0 (Classification of solar thermal collectors with respect to PED - Paper of common understanding)

CE and Keymark (Jan Erik Nielsen)
Jan Erik Nielsen mentioned that it is possible to have CE-Marking and Keymarking in parallel.

Item 27: Results / Information on QAiST Round Robin test

The Project QAiST (Quality assurance in solar thermal heating and cooling technology – keeping track with recent and upcoming developments) started on June 1st, 2009 and ended on May 31st, 2012. Within this project a broad round robin test of solar thermal collectors and factory made systems was performed.

Stephan Fischer informed about this round robin test and presented the results obtained by means of the presentation attached as Annex D.

The results of the Round Robin test are very good and show the high quality of the work performed by the solar thermal test labs as well as of the standards used.
It was agreed to publish the main outcomes of the Round Robin test as well as the positive message related to it.

Item 28: Global certification

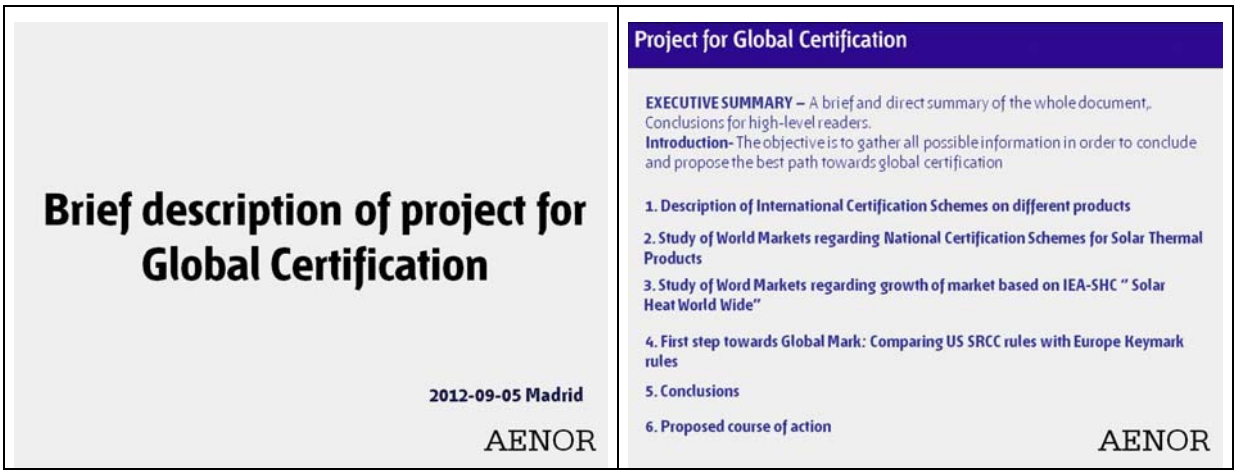
At the 11st Solar Keymark Network meeting a working group related to global certification of solar thermal products consisting of the following persons was established:

Jaime Fernandez Gonzalez-Granda.(chair), Mark Witt, Stephan Fischer, Jan Erik Nielsen, Harald Drück, François-Xavier Ball, Sören Scholz, Ralf Köbbemann-Rengers, Stefan Mehnert and Susanne Hansson.

During the last year the working group had several web meetings.

A **Workshop on Global Certification** was organised mainly by Jaime Fernandez Gonzalez-Granda. This Workshop took place directly before the Solar Keymark Network meeting on September 5th, 2012 from 9:00 hrs to 12:00 hrs at Madrid.

Jaime Fernandez Gonzalez-Granda informed about this SCF funded project by showing the following two slides.



Item 29: Information on Energy Labelling

Since Gerard van Amerongen was not present Christian Stadler gave a report about the current status. The most relevant points are:

- Latest proposals from the Ehttp://www.stellenwerk-stuttgart.deU Commission for the procedures are dated May 2012
- Some industry associations such as BDH and EHI are lobbying for changing the procedures again (in the direction of having specific labelling for the different technologies: one for heat pumps, one for gas boilers, etc.). This is against the original principles of having the possibility also to be able to compare the different technologies against each other's. If they will be successful is not clear.

Item 30: Report from the Solar Keymark Certification Bodies / Solar Keymark Inspection Working Group

Sören Scholz mentioned that since the 12th Solar Keymark Network meeting no meeting of the "**Solar Keymark certification bodies working group**" took place. Hence, there are now

new developments. It was agreed that the Solar Keymark certification bodies working group will meet directly after this SKN meeting for half a hour.

Jaime Fernandez Gonzalez-Granda mentioned that the next meeting of the **“Solar Keymark Inspection Working Group”** will take place after this SKN meeting.

Item 31: Information from TC 312

Originally it was planned that Costas Travasaros as the chairman of TC 312 will present the latest news related to TC 312.

Since he was not present Jan Erik mentioned that at present the next TC 312 meeting is scheduled for January 15th and 16th as well as for January 22nd and 23rd , 2013 in Brussels.

Concerning the date January 22nd and 23rd , 2013 Harald Drück mentioned that this date was fixed at the last combined ISO TC 180 and CEN TC 312 meeting held at San Francisco in July 2012. It was agreed that Jan Erik Nielsen should contact Vassiliki Drosou (TC 312 secretary) to inform her about January 22nd and 23rd , 2013 as the preferred date.

Franz Helminger mentioned the establishment of a task force of WG 1 working on the revision of the new collector test standard ISO 9806. A meeting of this task force is scheduled for November 13th and 14th , 2012 at Berlin.

Harald Drück mentioned the vacancy of the TC 312 WG3 convenor position as well as the expected vacancy of the TC 312 WG1 convenor position which is due to a lack of funding of the present convenor Peter Kovacs and the secretary Per Forsberg (SIS).

Item 32: Information from QAiST-Project

The Project QAiST (Quality assurance in solar thermal heating and cooling technology – keeping track with recent and upcoming developments) started on June 1st, 2009 and ended on May 31st, 2012. Project co-ordinator is Pedro Dias from ESTIF.

Predo Dias presented the project by using the presentation attached as Annex E.

Participants of the Solar Keymark Network expressed their compliments and respect related to the huge amount and the quality of the work performed with the QAiST project and thanked Pedro Dais for his excellent work related to the co-ordination and the management of the QAiST project.

Note: Further information on the “QAiST website”: http://www.qaist.eu/

Item 33: New Solar Keymark Website

Pedro Dias informed about the new Solar Keymark Website by explaining the page as well as the available features online in the internet.

The activity was very much appreciated by the Solar Keymark Network.

Item 34: Information from CEN / CCB

Since Pedro Loste from CCB was not present this item could not be treated.

The Solar Keymark Network expresses its disappointed that obviously CCB is not really interested in its work since no representative from CCB was present and would appreciate if a representative of CCB would be present in future SKN meetings.

Note : The day after the meeting, Jaime Fernandez Gonzalez-Granda has explained that the representative appointed by CEN for this meeting had planned to attend the part of the meeting where this item of the agenda was to be dealt with. However due to a mis-understanding, Jaime Fernandez Gonzalez-Granda did not inform him of the right moment for doing so, as agreed. Jaime Fernandez Gonzalez-Granda has apologised for it.

Item 35: Experience with the misuse of the Solar Keymark

Sören Scholz reported that misuse is still a problem and that the establishment of a kind of “black list” available in the Internet could be a solution. The content of this “black list” still needs to be discussed within the “Solar Keymark certification bodies working group”.

Item 36: Any other business

Item 36.1: Microgeneration Certification Scheme (MCS)

Pedro Dias reported about the possibilities of cooperation with MCS in order to have Solar Keymark licensed products better represented in their website. MCS referred that they are integrating SK products manually into their database and requested for any arrangements that could be made between MCS and Solar Keymark to facilitate more efficient way of communication and data transfer.

It was agreed that the Solar Keymark Secretary should cooperate with MCS and try to find an effective procedure for both sides in order to deal with such information transfer on new, withdrawn , cancel or suspended certificates on a periodical basis.

Item 36.2: BAFA

On request of BAFA (one of the German organisations granting subsides) Stephan Fischer presented a collector test report that was obviously wrong with regard to the sampling of the product. After discovering the error immediately a modified version of the test report was issued.

It was agreed that such errors should not happen and that the certifiers should perform a detailed check of the documents with regard to the fulfilment of the requirements for the certification of the product before issuing a Solar Keymark certificate.

Item 37: Important national developments

No important national development were reported.

Copy of Item 5: Date and place of next meetings – since next meetings are usually stated at the end of the minutes

The **14th SKN meeting** (spring 2013 meeting) is scheduled for

March 12th 13:00 hrs to March 13th 14:00 hrs, 2013 (end of day one at 19:00 hrs)

at the premises of SP headquarters at Boras, Sweden based on an invitation from Martin Persson.

The **15th SKN meeting** (autumn 2013 meeting) is scheduled for

October 1st 13:00 hrs to October 2nd 14:00 hrs, 2013 (end of day one at 19:00 hrs)

in Berlin, Germany based on an invitation of Sören Scholz.

Item 38: End of meeting

Harald Drück thanked the participants for attending the meeting and for their constructive discussions. Furthermore he thanked Jaime Fernandez Gonzalez-Granda from AENOR for hosting the meeting.
The meeting ended at 13:25 hrs.

The minutes were prepared by Harald Drück (Chairman of the Solar Keymark Network) in assistance with Jan Erik Nielsen (SKN Secretariat) and Maria João Carvalho (proof reading)

Stuttgart, September 12th, 2012

Contact address Solar Keymark Chairman:
Harald Drück
ITW, Stuttgart University
Pfaffenwaldring 6
70550 Stuttgart, Germany
Email: **drueck@itw.uni-stuttgart.de**

Contact address Solar Keymark Secretariat:
Jan Erik Nielsen
PlanEnergi
Aggerup 1
4330 Hvalsoe, DK
Email: jen@planenergi.dk

Annex A: List of participants

13th Meeting, Madrid, September 5th and 6st, 2012

NAME	ORGANISATION
Achim Sadenwater	DIN CERTCO
Alberto García de Jalón	CENER
Allard Slomp	KIWA Nederland BV
Andreas Bohren	SPF Solartechnik
Ashraf Kraidy	RCREEE
Carsten Lampe	ISFH
Christian Stadler	General Solar Systems GmbH
Daniele Bernacchioni	ICIM S.p.A.
Danjana Theis	IZES GmbH
Emmanuel Leger	Laboratoire Belenos
Fernando Isorna	INTA
Fiona Mc Clure	Rheem Australia
François-Xavier Ball	CERTITA
Franck Cheutin	CSTB
Franz Helminger	AIT Austria
Giombattista Traina	Istituto Giordano
Giuseppe Lacopo	Eurofins Modulo Uno
Hanspeter Weiss	Ernst Schweizer AG/ Swissolar
Harald Dehner	ASIC
Harald Drück	ITW
Henry Rosik	ITC Zlín
Ioannis Alexiou	DQS Hellas
Jaime Fernandez Gonzalez-Granda	AENOR
Jan Erik Nielsen	Solar Key Int.
Jana Levická	TSU Piestany
Jim Huggins	Solar Rating & Certification Corp
João Santos	CERTIF
Julien Heintz	CETIAT
Korbinian Kramer	Fraunhofer ISE
Les Nelson	IAPMO
Martin Persson	SP Technical Research Institute of Sweden
Maria João Carvalho	LNEG
Patrick Hauser	TiSUN
Patryk Hirszler	PIMOT
Pedro Dias	ESTIF

Ralf Koebbemann-Rengers	Bosch
Rob Reijnen	Solahart Europe
Stephan Fischer	ITW
Sören Scholz	DIN CERTCO
Susanne Hansson	SP Technical Research Institute of Sweden
Ulrich Fritzsche	TÜV Rheinland Energie und Umwelt GmbH

Annex B:
Presentation related to
“Freeze Test Project” HP_Qual

First results from HP_Qual Project

- Within the SCF financed HP_Qual project, three test laboratories will evaluate and validate a test procedure for freeze testing on heat pipe's based on a first proposal made by TÜV in 2011
- The participating labs are:
  - Fraunhofer-Institut für Solar Energiesysteme ISE
  - Institut für Solarenergieforschung Hameln ISFH
  - TÜV Rheinland Energie und Umwelt GmbH TEU
- In a first step, the existing test procedure was discussed and the test conditions for the verification test were fixed
- Each laboratory had shared minimum one type of heat-pipe tube combination with each other
- Beside the three shared types, each laboratory added individual samples
- At TEU, six different types were tested
- 50% of the samples had been exposed outdoors before
- -10 and +10°C need to be under- and overrun by the fluid temperature during each cycle

First results fromHP_Qual Project

- Each lab had made a visual inspection before, after three and after 20 cycles
- First results showed a good temperature resistance by the tested samples
- The test of „single“ heat pipes on their own is not close to reality and caused problems
- Three cycles seemed not to be enough, 20 cycles (one each year) feasible
- The maximum required cycle period will be about eight to ten hours (depending on the climate chamber characteristics)
- The case of no failures during evaluation test is no argument against the necessity of freeze testing for heat pipes; there had been problems in the filed!
- The time constant of single glass heat pipes is also for freeze testing much lower than for heat pipes in all glass tubes
- Even, if preconditioning didn't show deviating results, it may be critical to exclude negative influences by preconditioning/ exposing (remember the performance change after one year exposure)

First results fromHP_Qual Project

Next steps

- Evaluation of all test results and investigations made by the three participating test labs (expected until Mid of October)
- Improvement of the existing test procedure proposal (until end of October)
- Distribution of test procedure draft to all members of WG *freeze testing (Beginning of November)*
- Telephone conference within WG freeze testing to discuss the procedure (Mid of November)
- Evaluation of final test procedure and proposal for a decision within WG (until mid of December)
- Presentation of final test procedure and proposal for a decision (Spring meeting 2013)

Annex C:
Solar Certification Fund
overview and 1st Call – status report

Solar Keymark Network meeting

13th meeting
5-6 September 2012
AENOR, Madrid

The Solar Keymark
CEN Keymark Scheme

THE Quality Label for Solar Thermal Products in Europe

Solar Certification Fund

- 34 projects supported so far
  - 1st call: 9
  - 2nd call: 7
  - 3rd call: 18

The Solar Keymark
CEN Keymark Scheme

THE Quality Label for Solar Thermal Products in Europe

Solar Certification Fund

- 392 425 EUR allocated to projects so far
  - 1st call: 130 950 EUR
  - 2nd call: 84 910 EUR
  - 3rd call: 176 565 EUR

The Solar Keymark
CEN Keymark Scheme

THE Quality Label for Solar Thermal Products in Europe

Solar Certification Fund

- Improvements sought
  - More effective and swifter procedures
    - Clear process
    - Templates available
    - Quicker adjustments to contracts
    - Time flexibility for reports' approval
  - Clarity for applicants and SKN
    - Projects info and outcomes available to SKN
    - Better information on process, timings, requirements

The Solar Keymark
CEN Keymark Scheme

THE Quality Label for Solar Thermal Products in Europe

SCF – Project Status
1st SCF call

Proposal	Entity	Responsible	Funding	Status
2-A-Check 12976-Fraunhofer	Fraunhofer ISE	Korbinian Kramer	15 000	Proposal for SKN 13 approved (points 15 and 19) Project close to conclusion.
4-A-EN13203-3 solar-SWT	SWT	Dipl.-Ing. D. Bestenlehner	14 950	Conclusion expected for November 2012 Periodical report available
7-A-Legio2010-vAConsult	vA Consul	Gerard van Amerongen	27 150	Project concluded. For approval.
9-A-SK 12977-PlanEnergi	PlaEnergi	Jan Erik Nielsen	20 000	Project concluded. For approval.
10-B-CE2010-SWT	SWT	Stephan Fischer	12 900	Contract extended at SKN 12. Update on CE marking at SKN 13.
12-B-SK Update-SP	SP	Peter Kovacs	20 000	Project almost finalised. Final report being prepared.
13-C-AdminSFC2010-ESTIF	ESTIF	Pedro Dias	8 950	Project concluded. For approval.
14-C-GloboCert-PlanEnergi	PlaEnergi	Jan Erik Nielsen	5 000	Project concluded. For approval.
15-C-SKTC164:2010-vAConsult	vA Consult	Gerard van Amerongen	7 000	Project concluded. For approval.

Solar Certification Fund > SCF Projects – Reporting > 1st call SCF

The Solar Keymark
CEN Keymark Scheme

THE Quality Label for Solar Thermal Products in Europe

Annex D:
Results and Information on QAiST Round Robin test

Institute for Thermodynamics and Thermal Engineering
Research and Testing Centre for Thermal Solar Systems (TZS)
Universität Stuttgart

www.itw.uni-stuttgart.de

EUROPEAN ROUND ROBIN TEST ON SOLAR COLLECTORS AND SOLAR THERMAL SYSTEMS (QAiST)

Stephan Fischer

Institute for Thermodynamics and Thermal Engineering (ITW)
Research and Testing Centre for Thermal Solar Systems (TZS)

University of Stuttgart
Pfaffenwaldring 6, 70550 Stuttgart, Germany
Email: fischer@itw.uni-stuttgart.de
Internet: www.itw.uni-stuttgart.de

Overview

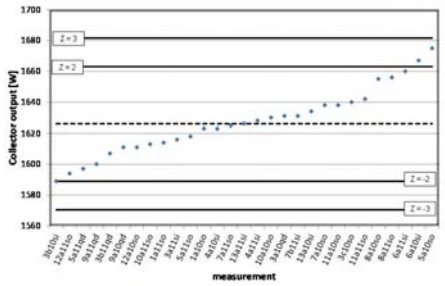
- Round Robin test is carried out in the frame work of the QAiST project (**Q**uality **A**ssurance **i**n **S**olar **T**hermal Heating and Cooling Technology)
- Participants from 13 European test laboratories
- Test of one flat plate and one evacuated tubular collector
- Test of one thermo siphon and one forced circulation system
- Evaluation by IfEP, specialised on the evaluation of proficiency testing
- Results are considered as very good by IfEP

Participants

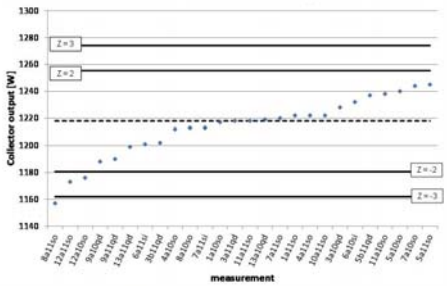
AIT, Austria
CENER, Spain
CSTB, France
DEMOKRITOS, Greece
Fraunhofer ISE, Germany
ISFH, Germany
ITC, Spain
IZES, Germany
LNEG, Portugal
PIMOT, Poland
SP, Sweden
TÜV Rheinland, Germany
ITW, Germany

Evaluation:
Institut für Eignungsprüfung (IfEP), Germany

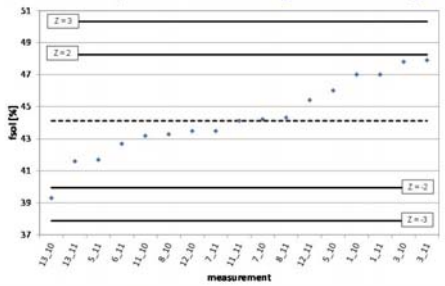
Flat plate collector 1000 W/m², dT = 0K

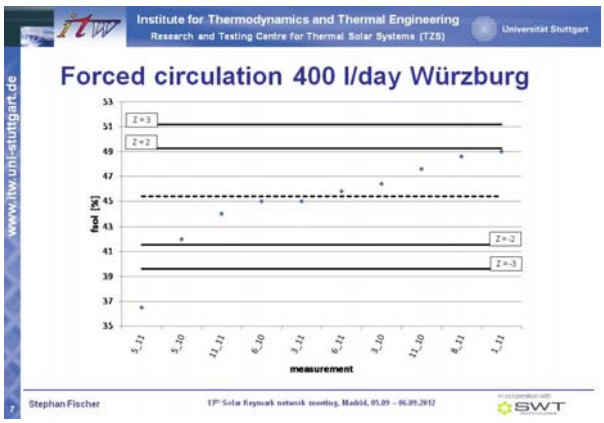


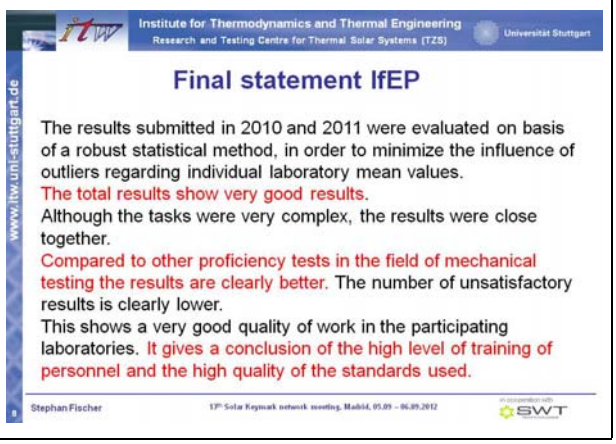
ETC collector 1000 W/m², dT = 0K



Thermosiphon 170 l/day Würzburg




Institute for Thermodynamics and Thermal Engineering
Research and Testing Centre for Thermal Solar Systems (TZS)
Universität Stuttgart
www.itw.uni-stuttgart.de
Forced circulation 400 l/day Würzburg
f_sol [%]
measurement
Stephan Fischer
SWT


Institute for Thermodynamics and Thermal Engineering
Research and Testing Centre for Thermal Solar Systems (TZS)
Universität Stuttgart
www.itw.uni-stuttgart.de
Final statement IfEP
The results submitted in 2010 and 2011 were evaluated on basis of a robust statistical method, in order to minimize the influence of outliers regarding individual laboratory mean values.
The total results show very good results.
Although the tasks were very complex, the results were close together.
Compared to other proficiency tests in the field of mechanical testing the results are clearly better. The number of unsatisfactory results is clearly lower.
This shows a very good quality of work in the participating laboratories. It gives a conclusion of the high level of training of personnel and the high quality of the standards used.
Stephan Fischer
SWT


Institute for Thermodynamics and Thermal Engineering
Research and Testing Centre for Thermal Solar Systems (TZS)
Universität Stuttgart
www.itw.uni-stuttgart.de
The work presented is partly funded by European Commission within the Program “Intelligent Energy Europe” under grant number IEE/08/593.
Thank you …
Stephan Fischer
SWT

Annex E:
Presentation related to QAiST

QAiST
Quality Assurance in Solar Heating and Cooling Technology

Solar Keymark Network meeting

Madrid, Spain
5-6 September 2012

INTELLIGENT ENERGY EUROPE

Project concluded

- Start: 1 June 2009
- End: 31 May 2012
- 15 partners:
  - 13 test labs from 9 countries:
    - PT / ES / FR / DE / AT / PL / SE / DK / GR

Main work areas

- Solar thermal collectors (WP2)
- Solar thermal systems (WP3)
- Quality assurance of testing (WP4)
- New areas for quality assurance systems (WP5)
- Communication & Dissemination (WP6)

Solar thermal collectors (WP2)

- Proposals for revision of the present EN 12975 with respect to tracking/concentrating and mid temperature collectors including ETC
- A report on durability and reliability requirements and testing methods for all collectors and its components (incl. new designs), including proposal for changes or complements to current EN12975

Solar thermal collectors (WP2)

- A guideline to the EN 12975 allowing uniform interpretation of requirements, harmonized application of the standard and presentation of results
- A procedure for calculation of energy output of solar thermal collectors

Solar thermal collectors (WP2)

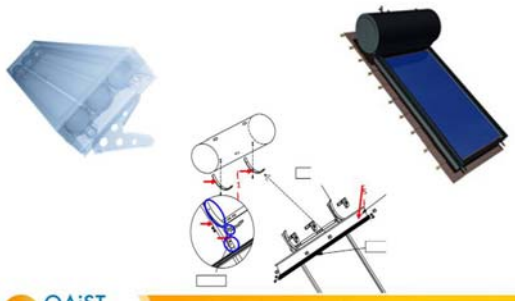
Solar thermal systems (WP3)

- Establishment of a clear checklist for support of decision on verification of reliability requirements of Factory Made Systems/Custom Built Systems
- Preparation of a Guide of procedures for Reliability tests of factory made systems
- Improved extrapolation procedure for the determination of the performance of factory made systems

Solar thermal systems (WP3)

- Proposal to convert test results to “EU reference tapping cycles” for factory made systems and for custom built systems
- Proposal for determination of Hot Water Comfort of factory made systems & custom built systems

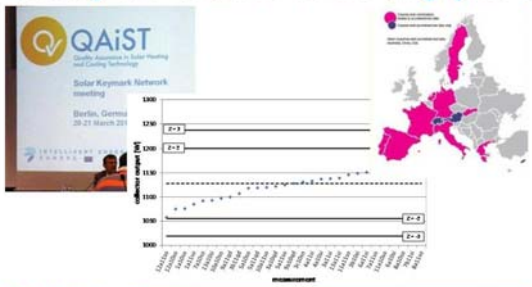
Solar thermal systems (WP3)



Quality assurance of testing (WP4)

- Improving the European Solar Keymark certification scheme
- Report describing the results of the Inter-Laboratory comparison of solar thermal collectors and systems testing (round robin)

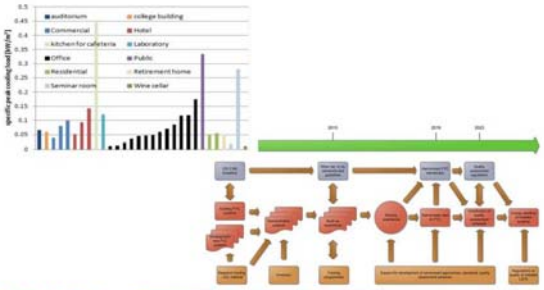
Quality assurance of testing (WP4)



New areas for quality assurance systems (WP5)

- Technical report on combined solar & heat pump systems with system overview and quality enquiries
- Technical report on the status and requirements for successful implementation of F&YC for large solar thermal systems
- Technical report on the requirements for durability and performance test of solar cooling systems

New areas for quality assurance (WP5)



Communication & Dissemination (WP6)

- Dissemination of project results to industry, standardisation committees and technology platforms and basis for consensus prepared
- National support scheme manager informed about quality assurance methods in solar thermal heating and cooling technology
- Comprehensive information about Solar Keymark available in CEE new member states

Communication & Dissemination (WP6)

- Broad knowledge within the European stakeholders for STH&C of standardisation activities around the world
- ISO and other international standardisation work strongly influenced by European activities

Communication & Dissemination (WP6)

www.qaist.eu

QAiST

QUALITY ASSURANCE IN SOLAR HEATING AND COOLING TECHNOLOGY

Project results

The QAiST project is now completed. Its results are now available and all the supporting documents can be dowloaded.

These results are divided in four categories:

- Solar Thermal Collectors
- Solar Thermal Systems
- Quality Assurance in testing
- New areas for Quality Assurance

Overview

The practical approach to quality assurance in solar thermal heating and cooling technology with regards to components and systems is standardisation and testing. It is very important for growth and development that the standards and test methods keep track with recent developments and allow maximum flexibility for future innovations.

Good, operational and generally accepted European Standards are an essential

PARTNERS

Co-ordinator

- ESTIF, EU

Partners

- CENER, Spain
- CSTB, France
- DEMOKRITOS, Greece
- AIT, Austria
- LNEG/INETI, Portugal
- PIEO, Poland
- ISE, Germany
- ISFH, Germany
- ITC, Spain
- TES, Germany
- PlanEnergi, Denmark
- SP, Sweden
- TÜV, Germany
- USTUTT-ITW, Germany

QAiST intranet pages, please click here to log in

Downloads

SOLAR THERMAL SYSTEMS

QAiST project results: documents available to download

Document	Content	Target group(s)
Establishment of a clear checklist for support of decision on verification of reliability requirements of Factory Made Systems/Custom Built Systems		
Checklists for the reliability requirements of Factory Made Systems / Custom Built Systems (D3.1)	The document contains checklists for verification of requirements for Factory Made Systems and Custom Built Systems and for decision on applicable tests.	Test laboratories; certification bodies
Preparation of a Guide of procedures for Reliability tests of factory made systems		
EN-12976 Guide for reliability test procedures of factory made solar thermal systems (D3.2)	This document intends to complement to the EN 12976 standard, focusing on parts 1 and 2 related to testing of solar thermal factory made systems. It is intended to support in the interpretation and application of the standard. The guide has been	Test laboratories; certification bodies


PARTNERS
COORDINATOR
CSTB
CENER
ISFH
izes
LNEG
Fraunhofer
PIMOT
TÜVRheinland
PlanEnergi
QAiST


THANK YOU
QAiST