

Solar Keymark Network

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



Final Minutes

10. Solar Keymark Network Meeting March 22nd – 23rd, 2011; Brussels, Belgium

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 CEN and especially Hoang Liauw for hosting the meeting even if the services provided by CEN are, in contrast to the meeting held at the same place 1,5 years ago, not free of charge any more. 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.R3)

The meeting took place from Tuesday, March 22nd, 2011, 13:00 hrs till Wednesday March 23rd, 2011, 14:05 hrs at the CEN-CENELEC Management Centre, Brussels.

The first invitation including the draft agenda (version zero) of the meeting was sent out by email from Jan Erik Nielsen dated February 7th, 2011.

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 spectrum of participants present the voting preconditions according to clause 4.2 of the Solar Keymark Network internal regulations (Document SKN_N0102R3) are fulfilled.

Item 3: Approval of the agenda

Harald Drück mentioned that as a result of the discussion related to item 27 of the 9th SKN Meeting the agenda is set up in such a way that all topics where a decision is required are placed at the top of the agenda.

Following the first draft agenda send out on February 7th, 2011 in the last weeks updated versions of draft agendas were send out and were also available via the Solar Keymark Internet site. The latest version of the agenda was named “ Final draft agenda” document SKN_N0146R5 version 21/03/11. In comparison to the version R4 send out on March 8th, 2011 this present version contains only small changed related to item 7 (availability of document SKN_N0155R1) and item 27 (availability of document SKN_N0158R0)

The draft agenda was shortly discussed but no need for changes was seen. Hence this agenda was transferred in the final agenda. The final agenda is available via the Solar Keymark Internetsite as document number SKN_N0146R6

Item 4: Comments and final approval of the minutes of the 9. meeting

Harald Drück mentioned that the minutes of the 9th Solar Keymark Network meeting (File: SKN_N0144R0.pdf) were sent out by email dated October 18th, 2010 by Jan Erik Nielsen.

Within the 30 days following the send out of the minutes a few comments were received related to wrong year (2010 instead of 2011) mentioned under item 32 for the next TC 312. However, since September 2010 was already passed at the time the last SKN meeting took place it is quite obvious that the year 2011 was meant.

Furthermore one comment was received from Susanne Hansson on October 24th, 2010 related to item 29 (Requirements on OEM-certification) of the minutes of the 9th SKN meeting . She requested to include here question related to the subject in the corresponding text of the minutes an to mention that the description of case 2 is going to be changed on the web site.

Both requests were implemented in the following way:

Inclusion of the question of Susanne Hansson:

Item 29: Requirements on OEM-certification

Susanne Hansson [raised the question how to handle OEM certificates with regard to inspection and testing.](#)

[Furthermore she](#) mentioned the increasing number of OEM manufactures (Original Equipment Manufacturer). Due to this rules are required where and what has to be inspected. A proposal for this was elaborated by Susanne Hansson.

and the hint to change the website

- 1) Own Brand Labeller
- 2) Has a Solar Keymark license for the product and therefore already sample and insp and tests are carried out

It was agreed to change the description for CASE 2 on the SK website in the corresponding way.

Due to the changes mentioned above the document SKN_N0144R1 results as the revised version of the minutes. Harald Drück asked for final approval of this version of the minutes.

The minutes of the 9th Solar Keymark Network meeting File: SKN_N0144R1 were unanimously finally approved by the participants present.

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

On request of Susanne Hansson dated October 24, 2010 the following is added related to Item 29: Requirements on OEM certification:

Below is written at SK website (2010-09-22):

“Consider the two situations:

Situation I: A distributor buys Solar Keymarked collectors from the manufacturer and sells the collectors under the original name ->

As the collector still has the original name and type referred to in the Solar Keymark license, the distributors can of course use the existing Solar Keymark.

Situation II: A distributor buys Solar Keymarked collectors from the manufacturer and sells the collectors under his own name ->

As the collector has a new name and type, it is not possible to link it to the original Solar Keymark license. A new Solar Keymark license with the new name/type must be obtained. No testing is required to obtain the OEM Solar Keymark license, only paper work and inspection/visit. “

Item 5: Date and place of next meetings

The autumn 2011 meeting is scheduled for

October 5th 10:00 hrs to October 6th 12:00 hrs ; (end of day one at 18:00 hrs)
at Paris in the premises of CERTITA

The spring 2012 meeting is scheduled for

March 20th 13:00 hrs to March 21st 14:00 hrs
at Berlin, Germany at DIN CERTCO

Proposal for the autumn 2012 meeting:

September 19th 13:00 hrs to September 20th 14:00 hrs
at Madrid at the premises of AENOR

Item 6: Review of Solar Keymark Network decision list and incorporating decisions into the relevant parts of the SK scheme rules and the SKN internal regulations

Harald Drück mentioned the discussion of the 9th SKN meeting related to item 9 (How to manage the “Decision list”) and the result to incorporate decisions from the “decision list” in the relevant parts of the SKN internal regulations, in the Solar Keymark scheme rules and in the tables of inter-changeable sub components.

Following this Jan Erik Nielsen prepared a revised version of the SKN decision list (Document SKN_N0100.R4CJEN) and the “Specific CEN Keymark Scheme Rules for Solar Thermal Products” (Draft Solar Keymark scheme rules, Document SKN_N0106R6.doc) containing all decisions made by the SKN up till the SKN 9th SKN meeting in October 2010.

The two documents were presented by Jan Erik Nielsen. After a short discussion the following decision was made:

Decision D1.M10 – Update of Solar Keymark scheme rules

The Solar Keymark scheme rules as described in document SKN_N0106R7 are accepted with future editorial changes to be made by Jan Erik Nielsen.

It was agreed to submit the updated version to CEN Certification Board CCB for approval by correspondence.

This decision was taken unanimously.

A revised version of the decision list will be prepared by Jan Erik Nielsen in such a way that the “history” of the decisions is traceable. One option is to keep the heading of the decision and to mention below in which document the decision was when incorporated.

Item 7: Solar Certification Fund – 1st Call

Jan Erik Nielsen and Harald Drück reported about the first meeting of the Solar Certification Fund Steering Group held on October 25th, 2010 at Stuttgart. During this meeting Harald Drück was elected as the Chairman of the Solar Certification Fund and Jan Erik Nielsen as the secretary. Furthermore the first call including its evaluation was prepared. The call was launched on December 1st, 2010 by document SCF_N0002R4.

The proposals received based on this call were carefully evaluated by the Solar Certification Fund Steering Group. The results of this evaluation including a proposal of projects recommended for funding are listed in document SKN_N0155R0. This document as well as all the proposals received were sent out to the Solar Keymark Network by Jan Erik on March 7th, 2011.

A slightly revised version of the “Recommendation from the SCF steering group to the Solar Keymark Network - concerning the proposals for 1st SCF call” (Document SKN_N0155R1) was sent out by Jan Erik Nielsen on March 21st, 2011.

This document SKN_N0155R1 was presented by Jan Erik Nielsen.

After a short discussion the following decision was made:

Decision D2.M10 – Funding of proposals from the 1st SCF call

The proposals recommended by the Solar Certification Fund Steering Group for funding as described in document SKN_N0155R1 are accepted and the corresponding activities will be funded.

This decision was taken unanimously.

Item 8: Solar Certification Fund – 2nd Call

The next call for the projects funded by the Solar Certification Fund will be launched based on the decision made at the 11th SKN meeting.

The following activities were proposed to be included in the 2nd SCF call

- Revision of specifications for requirements for installers and users manuals
- Revision for collector performance calculation tool for new collector designs such as PVT collectors and air heating collectors
- Procedures for the certification of performance for large custom made solar thermal systems, especially concerning the modelling tools.
- Changes of solar standards related to EPBD directive
- Project to support the introduction of Eco-Design related to technical aspects
- Financing of ISO secretariat related to the ISO solar collector working group
- Establishment of a kind of “Solar Keymark Police” to avoid misuse of Solar Keymark
- Mechanical load test and requirements for solar facade collectors (in preparation of CE mark for solar collectors)
- Elaboration of quality issues related to Solar Keymark certification
- Elaboration of a European standard for installation companies
- Elaboration of a European standard on solar fluids
- Identify technical trade barriers and strategies how to overcome them for specific countries such as e.g. France
- Development of an indoor test procedure for factory made systems according to EN 12976

The ideas listed above will serve as a basis for the 2nd 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.

With regard to the further improvement of the evaluation performed by the SCF Steering Group the following modification will be performed

- Participants of the SKN can volunteer for participating in the evaluation. In this case please send an email to Jan Erik Nielsen (jen@planenergi.dk) and Harald Drück (drueck@itw.uni-stuttgart.de)
- A threshold related to the score resulting from the evaluation will be introduced in order to get a project proposal eligible for funding

Item 9: Absorber coatings to be considered as equivalent

The requirements under which absorber coatings can be considered as equivalent as well as a list of equivalent absorber coatings is laid down in document SKN_N0137R2.

This document is based on Decision D1.M5 (Validity of Solar Keymark certificates in case that selectively coated absorbers by different manufacturers are used as equivalent)

The procedure described in D1.M5 is not any more considered appropriate. Hence, as a result of the discussions on item 10 of the 9th SKN meeting Andreas Bohren et.al. prepared a modified proposal for “Regulation for the interchangeability of absorber coatings within the SK certification scheme”. (Document SKN_N0149R0)

The document was discussed in detail and finally the following decision was made:

Decision D3.M10 – Procedure for considering selective absorber coatings as equivalent

The experts present decided to apply the following procedure in order to consider different coatings as equivalent:

Different coatings are considered as equivalent provided that

1. They are applied on the same substrate (e.g. copper, aluminium)
and
2. The specific test procedure described below has been passed successfully
and
3. The equality is accepted by the Solar Keymark Network

Procedure

If a coating is to be considered equivalent to other coatings then the following tests shall be passed and requirements shall be fulfilled:

1. Two identical collectors (apart from the absorber coating) are compared to verify the equality of the two coatings. The absorbers of the two collectors must be made of the same material and must have the same thickness. One of the collectors is coated with one of the reference coatings. The other collector is coated with the new coating.
2. The durability and reliability tests according to EN 12975-2 (being relevant with regard to the absorber, thus 5.3 High Temperature Resistance, 5.4 Exposure and 5.6 Internal Shock) for the collector with the new coating performed by an EN12975 accredited test lab are successfully passed.
3. The power curves determined by an accredited test lab for the two collectors with different coatings shall not differ by more than 2% at a temperature difference of 0 K and not more than 2% at a temperature difference of 50 K

The absorptance and emittance of the different coatings under question shall have - according to the specifications of the manufacturer - equivalent optical properties ($\alpha_1 = \alpha_2 \pm 1\%$ point at most, $\epsilon_1 = \epsilon_2 \pm 1\%$ point at most) and the same range of the production variability, e.g. $0.95 \pm 2\%$.

4. For selective absorber coatings on metal a IEA SHC Task X test shall be performed successfully
5. The interchangeability is accepted by the Solar Keymark Network

The equivalency of the absorber coating can be challenged anytime. In this case the absorber has to be sampled by an accredited third party or by the test lab. The costs for the whole procedure are fully carried by the challenger. Upon presentation of tests that suggest none-equivalency of an absorber coating, the SKN is obliged to request the re-evaluation of an absorber coating the latest until the forthcoming SKN meeting. The absorber has to be sampled by a third party.

This decision was taken with no negative votes and two abstentions

Note: This decision replaces decision D1.M5 – Validity of Solar Keymark certificates in case that selectively coated absorbers by different manufacturers are used as equivalent.

Decision D4.M10 – Absorber coatings to be considered as equivalent

The document SKN_N0137R2 shall be updated by Jan Erik Nielsen by implementing the Decision D3.M10 (Procedure for considering selective absorber coatings as equivalent) as mentioned above. After this change is performed the resulting document SKN_N0137R3 will reflect the current status of absorber coatings to be considered as equivalent.

This decision was taken with no negative votes and four abstentions

Note: This decision replaces decision D1.M5 – Validity of Solar Keymark certificates in case that selectively coated absorbers by different manufacturers are used as equivalent.

Item 10: Glazing to be considered as equivalent

Since no proposal for discussion is available this topic was postponed to the next meeting. As already stated in the minutes of the 9th SKN meeting related to item 9 the working group consisting of the following persons shall elaborate a proposal to be presented at the next meeting.

Ralf Köbbeman-Rengers (Chair), Andeas Bohren, Wolfgang Eisenmann, Franz Helming, Carsten Lampe, Stephan Fischer, Korbinian Kramer

Item 11: Thermal insulation material to be considered as equivalent

Andreas Bohren elaborated a proposal describing under which conditions thermal insulation material of solar collectors can be considered as equivalent (Document SKN_N0150R0)

After a discussion of the document the impression of the Solar Keymark Network was that the document has to be further elaborated before it can serve as a basis for a decision. Hence the working group consisting of the following persons was established in order to revise the document before the next meeting in such a way that a decision about the proposed procedure can be made.

Working group:

Andreas Bohren (lead), Sören Scholz, Stephan Fischer, Daniel Eggert, Vinod Shama, Ulrich Fritsche, Stamatios Babalis

Item 12: Under which conditions can absorbers with different pipe diameters, pipe distances and fin thicknesses be considered part of one collector family

Concerning this question it was at the 9th SKN meeting under item 27 decided to establish a working group consisting of the following persons:

Franz Helminger (chair), Harald Dehner, Ralf Köbbeman-Rengers, Maria João Carvalho, Peter Kovacs, Vinod Shama

The task of this working group is to prepare a proposal under which conditions collectors with absorbers with different pipe diameters, different pipe distances and different fin thickness can be considered as part of one collector family. The working group was active but no final proposal for discussion at this meeting could be elaborated. It is intended to present a proposal for decision at the next SKN meeting.

Item 13a: Annual collector energy output calculation tool

A tool for the calculation of the annual collector energy output was prepared by Peter Kovacs from SP. Following the result of the discussion related to item 12 of the 9th SKN meeting the working group formed related to this task and chaired by Peter Kovacs shall perform the validation of the tool.

Peter Kovacs presented the tool and explained the results of the validation procedure by showing the presentation attached as annex B.

The SKN appreciated the work performed. However, it was mentioned that the validation for collectors with biaxial incident angle modifiers (e.g. evacuated tubular collectors) is still missing. Due to this no final decision related to the integration of the annual collector output calculation tool could be made. Hence, the following was decided:

Decision D5.M10 – Validation of annual collector output calculation tool

Peter Kovacs and his group will prepare a document describing the validation of the annual collector output calculation tool. Based on this document by correspondence a decision will be made if the annual collector output calculation tool is considered as validated.

This decision was taken unanimously

Item 13b: Annual collector energy output included in data sheets

A proposal for the extension of the collector data sheet by an additional page for the presentation of the annual collector energy output was presented by Jan Erik Nielsen. The proposal was discussed and accepted with small modifications. The collector data sheet shall be included as Annex B2 in the Solar Keymark Scheme rules.

Decision D6.M10 – Annual collector energy output included in data sheets

Provided that the annual collector energy output calculation tool is successfully validated (see Decision D5.M10) values for the presentation of the annual energy output of collectors in the Solar Keymark data sheets shall be determined according to the method described in Annex B1 (Collector data sheet) of the Solar Keymark Scheme rules.

Values for annual energy output of collectors will be included on page 2 in the collector data sheet.

- One month after the annual collector energy output calculation tool is considered as validated values for annual energy output of collectors **should** be included in all new collector data sheets.
- Three month after the annual collector energy output calculation tool is considered as validated values for annual energy output of collectors **shall** be included in all new collector data sheets.
- Three month after the annual collector energy output calculation tool is considered as validated whenever a certificate is renewed, the values for annual energy output of collectors shall be included the related datasheet.
- One month after the annual collector energy output calculation tool is considered as validated licensees may ask for renewal of existing certificates for inclusion of the values for annual energy output of collectors in the datasheet. A fee may be requested for such renewal.
- The detailed description (document SKN_N0154R0) of the method used for calculating the annual collector energy output of the validated annual collector energy output calculation tool shall be public available at www.solarkeymark.org.
- The tool itself as an executable shall be available from www.solarkeymark.org
- The source code of the tool shall be available from a restricted area in the www.solarkeymark.org for empowered certification body and the test labs recognised for testing in connection with Solar Keymark certification. Password for access to this area will be given by the Solar Keymark Network Secretary.
- Calculation of the annual collector energy output for a Solar Keymark collector data sheet shall be done by an empowered certification body or a test lab recognised for testing in connection with Solar Keymark certification.
- In case the annual collector energy output calculation tool is not applicable to a specific collector the calculation of the annual collector energy output is not required

This decision was taken unanimously

Item 14: Revised version of system data sheet

A proposal for a revised version of the system data sheet extend by the aspect of system families was presented by Jan Erik Nielsen.

The proposal was discussed and accepted with small modifications. The system data sheet shall be included as Annex B1 in the Solar Keymark Scheme rules.

Some participants expressed the wish to provide information related to the uncertainty of the values mentioned in the data sheet. It was agreed that as a first step a sentence mentioning the fact that values stated in the data sheet have a certain uncertainty should be included in the data sheet. A proposal for such a sentence should be elaborated by the participants until the next meeting.

Item 15: List of document required by certification bodies

At the 8th SKN meeting it was agreed under item 9 that Costas Travasaros will prepare a draft proposal for a list of documents required by the certification bodies. This list was circulated as document SKN_N0142R0.

The document was discussed at the 9th SKN meeting and it was concluded that the document is mainly containing requirements already specified in the standard EN 12975-1 and EN 12976-1.

In order to keep the validity of the document in case of an update of the standard the document should only include references to the standard wherever possible. Furthermore this approach makes it more easy to identify aspects required additionally to EN 12975-1 and EN 12976-1.

Since Costas Travasaros was not present no decision related to this list was made. It was agreed to ask Costas Travasaros to update the list as mentioned above and to postpone a decision on this topic to the next meeting.

Since the updated list is not available at the present meeting the topic was postponed to the next meeting. Stamatios Babalis was asked to take care of this activity.

Item 16: Guidelines for the assessment of collector and system documentation

João Santos presented document SKN_N0157R0 entitled “ Guideline for the assessment of the solar collector and solar systems technical documentation” with the presentation attached as annex C

After a short discussion it was agreed that the document provides a good guideline and should be used for the assessment of the collector and system documentation by all involved parties such as manufacturers, test labs and certifiers.

Item 17: Revision of decision D5.M7 – Solar Keymark certification of PV/T collectors

Uli Fritsche presented document SKN_N0148R0 and asked for a revision of decision D5.M7. The main arguments for this are:

- Electrical operation mode „without electrical production“ is a failure and not a common operation mode for PVT's
- If the thermal efficiency will be detected while using the MPP tracking mode for the electrical loop, the most critical mode will be taken into account

- Within the data-sheet, only the values for MPP mode should be listed, on request, the additional performance values for open circuit mode could be mentioned within the comment field

After a discussion the following decision was made mainly based on the argument that the operation mode for combined electricity and heat production represents the most common operating conditions as well as the most critical operation mode for the thermal efficiency values.

Decision D7.M10 – Solar Keymark certification of PV/T collectors

The participants present decided that Solar Keymark certification of PV/T collectors as a solar thermal product is possible provided the measurements of the thermal performance are performed with electrical production under MPP conditions.

In addition an optional thermal performance determination without electrical production (open circuit for PV-Module) is possible.

For the electrical load applied for the electrical production an appropriate solution for the MPP tracking shall be used

This decision was taken with two negative votes and eight abstentions.

Note: This decision replaces decision D5.M7 – Solar Keymark certification of PV/T collectors

Item 18: Pre-ageing of test samples

Korbinian Kramer presented the aspects related to pre-ageing of test samples based on document SKN_N0153R0.

The topic was discussed and the following decision was made

Decision D8.M10 – pre-ageing of solar collector test samples

The experts present decided that before performing a rain penetration test the solar thermal product should be pre-aged to at least the following extent by using either possibility 1 or possibility 2:

Possibility 1:

Expose the product at least for 15 valid days (according to the validity criteria of EN 12975, 5.4).

Possibility 2:

Two stagnation tests using a solar simulator providing at least 850 W/m² and 10°C ambient temperature with a duration of irradiance of at least 4h. In between this two stagnation tests the collector has to reach approximately ambient temperature.

Exposure to outdoor conditions for at least 15 days, not requiring any boundary conditions to be fulfilled.

Two stagnation tests using a solar simulator providing at least 850 W/m² and 10°C ambient temperature with a duration of irradiance of at least 4h. In between this two stagnation tests the collector has to reach approximately ambient temperature.

This decision was taken with six negative votes and two abstentions

Item 18.1: EN 12975-1:2006+A1:2010

For the correction of an editorial error related to tracking and concentrating collectors the amendment A1 of EN 12975-1 was initiated. Due to the acceptance of the amendment A1 related to EN 12975-1 in 2010 the formally correct notation of a reference related to EN 12975-1 is now EN 12975-1:2006+A1:2010.

In order to avoid a lot of temporally changes e.g. in test reports and subsidy schemes it was proposed to consider the reference EN 12975-1:2006 and EN 12975-1:2006+A1:2010 as equivalent.

A discussion of this aspect did not lead to a consensus hence no decision was made.

Item 19: Revision of Annex D of scheme rules, section D4

Maria João Carvalho presented document SKN_N0156R0 by means of the presentation attached as annex D.

Since the results obtained by the presented approaches are quite convincing the following decision was made.

Decision D9.M10 – Revision of Annex D of the scheme rules

It was decided to revise Annex D of the SK scheme rules as proposed by Maria João Carvalho in document SKN_N0156R0

This decision was taken with no negative vote and two abstentions

Item 20: Report of the 1. Meeting of the Solar Keymark Certification Bodies / Solar Keymark Inspection Working Group

Sören Scholz reported about the first meeting of the Solar Keymark certification bodies held on January 13, 2011 at Berlin. The presentation he gave in this context is attached as Annex E.

In addition the minutes of the meeting are available as document SKN_N0147R0.

The efforts performed by the certification bodies, especially with regard to information transfer to the inspectors are highly appreciated by the Solar Keymark Network.

Item 21: SKN financial issues

Based on document SKN_N0152R0 Jan Erik Nielsen reported about the fact that in 2011 an income based on fees for Solar Keymark certification of approximately 230.000 € is expected.

Concerning the financing of dissemination activities the following decision was made:

Decision D10.M10 – Financing of translation and layout of QAISt brochures

The translation of the QAISt brochures will be supported with an amount of €300,- per language and the new layout resulting from the translation will be financed completely by the SKN.

The PDF-Files resulting from this activity will be available at www.solarkeymark.org

This decision was taken with no negative vote and one abstentions

Item 22: Information from TC 312

Jan Erik Nielsen reported about the revision of the standard series EN 12975, EN 12976 and CEN/TS or EN 12977

Peter Kovacs (convenor of WG 1 responsible for EN 12975 series) mentioned the intensive work performed in the last month. Furthermore he reported that the co-operation with ISO did now start due to the fact that a new ISO secretary is now available. The plan is now to prepare the standards as a common EN/ISO document. At present he is waiting for feedback from ISO related to this proposal. If this plan is realised it will lead to a delay of 2 to 3 month compared to the preparation of an EN standard. The aim is to send out a common EN/ISO draft for enquiry as soon as possible.

Maria João Carvalho informed about the activities related to the EN 12976 series in the framework of the QAISt project, especially focusing on a synchronisation of requirements and test methods. Proposals of revision of the standard have been discussed and some aspects studied in conjunction with the Round Robin tests within QAISt. The proposals are being introduced in the standard. Further work will be done within QAISt and a WG2 meeting is expected to be scheduled by the convenor of WG2, Dominique Caccavelli.

Sebastian Laipple (convenor of WG 3 responsible for CEN/TS or EN 12977 series) reported about the finished enquiry. The comments received during the enquiry will be implemented during the coming days and then the docs will be sent to CEN for voting. Provided the voting leads to a positive result the final EN standards can be expected by the end of this year.

The next TC 312 will most probably take place on September 2, 2011 at Kassel Germany in conjunction with the ISES solar world congress.

Item 23: Information from QAISt-Project

The Project QAISt (Quality assurance in solar thermal heating and cooling technology – keeping track with recent and upcoming developments) started officially on June 1st, 2009 and has a duration of 3 years. Project co-ordinator is Pedro Dias from ESTIF.

He presented the project by using the presentation attached as Annex F. Furthermore he mentioned the presentation of the first results for the round robin test on solar collectors and systems this afternoon at 15:00 hrs in the premises of ESTIF at the Renewable Energy House in Brussels.

After the presentation a few questions were asked and answered.

In addition to the general project presentation “country reports” were presented from Macedonia by Alexander Prodanov and from Czech Republic by Pavel Vanek.

The presentation are attached as annex G (Macedonia) and annex H (Czech Republic)

Item 24: Eco-design and energy labelling

Since Gerard van Amerongen was not present he asked Jan Erik Nielsen to inform the Solar Keymark that there are no new developments (compared to the presentation he gave at the 9th SKN meeting)

Item 25: Information on CE marking

Stephan Fischer reported about latest developments related to CE marking by using the presentation attached as Annex I

After the presentation a few questions were raised and answered.

Item 26: Information from CEN

Hoang Liauw report about the last CEN Certification Board (CCB) meeting held on February 22 and 23, 2011 and mentioned the CCB resolutions related to Solar Keymark certification that are available as document SKN_N1051R0.

He reported about the intention of CEN or CCB respectively to organise target group oriented events related to the promotion of the Keymark.

Concerning the question of the SKN to open the Solar Keymark to third countries Hoang Liauw asked about the motivation. Jan Erik Nielsen explained that this is a wish from the industry in order to remove trade barriers.

Concerning global certification Sören Scholz raised the question how the same quality level and transparency as it is now the case for Solar Keymark certification can be ensured.

Hoang Liauw reported about the new Keymark data base established by CEN (see also item 14 of the 9th SKN meeting) by using a short demo presentation. It is intended to start the operation of the CEN database in the beginning of May 2011.

The CEN data base will be operated in addition the already existing databases.

Representatives from the certifiers expressed their wish that their comments related to changes of the database already submitted to CEN will be incorporated in a short time.

It was agreed that Hoang Liauw will inform Jan Erik Nielsen when the database is online public available. Jan Erik Nielsen will then send out an email to the SKN informing about the availability of the database and ask for comments to be submitted to Hoang Liauw.

Item 27: Global certification

Jan Erik Nielsen presented a first approach for global certification as described in document N0158R0. The proposal was discussed and in general appreciated.

Furthermore Jan Erik Nielsen informed about the latest news related to IEA SH&C Task 43 on “Rating and Certification Procedures”, including very first draft scheme rules (JEN)

Decision D11.M10 – Global certification – Solar Keymark

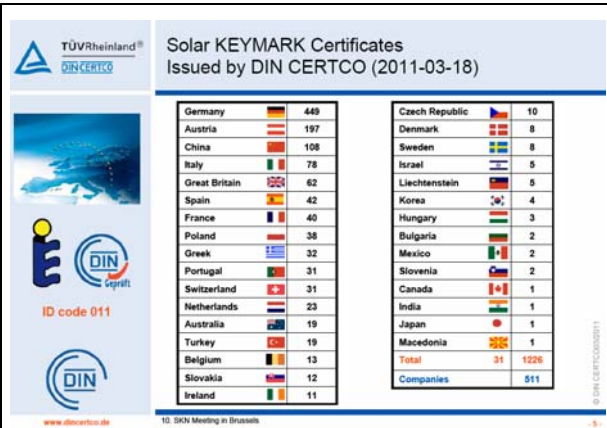
Provided there is not clear statement from CEN until the end of 2011 to open Keymark certification for solar thermal products for certification bodies from third countries until the middle of 2012 a separate certification scheme for solar thermal products will be elaborated.

This decision was taken with one negative vote and seven abstentions

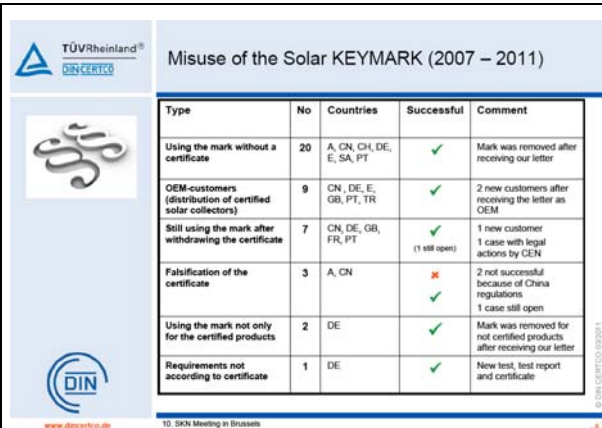
The topic related to promotion of Solar Keymark in South America by Jaime Fernández was postponed due to his absence.

Item 28: Experience with the misuse of the Solar Keymark

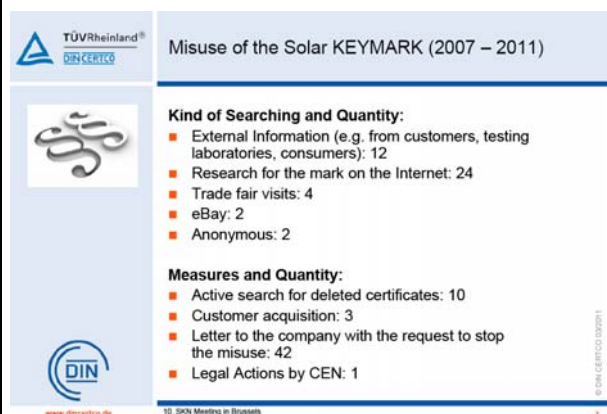
Sören Scholz reported about the success and problems related to the misuses of Solar Keymark by the following slides.



Country	Certificates	Country	Certificates
Germany	449	Czech Republic	10
Austria	197	Denmark	8
China	108	Sweden	8
Italy	78	Israel	5
Great Britain	62	Liechtenstein	5
Spain	42	Korea	4
France	40	Hungary	3
Poland	38	Bulgaria	2
Greek	32	Mexico	2
Portugal	31	Slovenia	2
Switzerland	31	Canada	1
Netherlands	23	India	1
Australia	19	Japan	1
Turkey	19	Macedonia	1
Belgium	13	Total	31
Slovakia	12	Companies	511
Ireland	11		



Type	No	Countries	Successful	Comment
Using the mark without a certificate	20	A, CN, CH, DE, E, SA, PT	✓	Mark was removed after receiving our letter
OEM-customers (distribution of certified solar collectors)	9	CN, DE, E, GB, PT, TR	✓	2 new customers after receiving the letter as OEM
Still using the mark after withdrawing the certificate	7	CN, DE, GB, FR, PT	✓ (1 still open)	1 new customer 1 case with legal actions by CEN
Falsification of the certificate	3	A, CN	✗	2 not successful because of China regulations 1 case still open
Using the mark not only for the certified products	2	DE	✓	Mark was removed for not certified products after receiving our letter
Requirements not according to certificate	1	DE	✓	New test, test report and certificate



Misuse of the Solar KEYMARK (2007 – 2011)

Kind of Searching and Quantity:

- External Information (e.g. from customers, testing laboratories, consumers): 12
- Research for the mark on the Internet: 24
- Trade fair visits: 4
- eBay: 2
- Anonymous: 2

Measures and Quantity:

- Active search for deleted certificates: 10
- Customer acquisition: 3
- Letter to the company with the request to stop the misuse: 42
- Legal Actions by CEN: 1

An increasing number of misuses can be observed. The need to keep Solar Keymark certification strong and reliable was consensus. All persons should look carefully at Solar Keymark certificates and label and inform the appropriate certifiers in case of potential misuses.

Item 29: Requirement related to active participation in the SKN

Jan Erik Nielsen reminded the participants that it clause 2.1 of the “Specific Solar Keymark Scheme Rules” the following is stated

“Certification bodies, testing laboratories and inspection bodies shall participate actively in the Solar Keymark Network, i.e. participate in meetings relevant for their activities in Solar Keymark certification, testing and inspection.”

Since not all relevant institutions or persons respectively are actively participating at the SKN the question was raised if sanctions such as e.g. the payment of a fee to the SKN/SCF or exclusion from Solar Keymark certification could be an appropriate instrument

The topic was discussed and the following decision was made:

Decision D12.M10 – Participation at Solar Keymark network meetings

In case of absence of representatives obliged to participate in the Solar Keymark network meetings they will be informed by the Solar Keymark Secretary that their presence is required.

Furthermore a written statement of the respective body or representative will be requested providing information why he did not participate in the last SKN meeting.

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.

This decision was taken with three negative votes and three abstentions

Item 30: Any other business

Item 31.1: NF certification required in France

The new NF certification scheme introduced in France was presented by Francois Xavier Ball from CERTITA based on a request of Harald Drück. The presentation is attached as annex J.

After the presentation several questions were asked and answered.

Francois Xavier Ball mentioned that test results of test reports according to EN 12976 from accredited test labs will be accepted by CERTITA on a case by case basis.

Several participants expressed their concerns that the NF certification of solar thermal products is contradicting the aim to establish Solar Keymark as THE European certification mark for solar thermal products.

Based on this fact it was decided that CEN CCB should be informed about the situation by Hoang Liauw and asked to express their opinion.

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

The autumn 2011 meeting is scheduled for

October 5th 10:00 hrs to October 6th 12:00 hrs ; (end of day one at 18:00 hrs)
at Paris in the premises of CERTITA

The spring 2012 meeting is scheduled for

March 20th 13:00 hrs to March 21st 14:00 hrs
at Berlin, Germany at DIN CERTCO

The autumn 2012 meeting is proposed scheduled for

September 19th 13:00 hrs to September 20th 14:00 hrs

at Madrid at the premises of AENOR

Item 31: End of meeting

Harald Drück thanked the participants for attending the meeting and for their constructive discussions. He closed the meeting at 14:07 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 March 29th, 2011, Rev 1: October 6th, 2011

Contact address Solar Keymark Chairman:

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Annex A: List of participants

10th Meeting, Brussels, MARCH 22nd & 23rd, 2011

NAME	ORGANISATION
Alberto Garcia de Jalon	CENER
Alexandar Prodanov	Solar Test Center in Skopje
Allard Slomp	KIWA
Andreas Bohren	SPF
Bouzid Khebchache	CSTB
Christian Stadler	Sonnenkraft
Daniel Eggert	ISFH
Danjana Theis	IZES/TZSB
Francois Xavier Ball	CERTITA
Franz Helminger	AIT
Gerard van Amerongen	vA Consult / Holland Solar
Giovanbattista Traina	ISTITUTO GIORDANO S.p.A.
Giovanni Bellenda	Eurofins / Modulo-Uno
Grzegorz Kunikowski	Establishment of Enviromental Procetcion
Hannes Zannantoni	ASiC
Hanspeter Weiss	Swissolar
Harald Drück	ITW
Hoang Liauw	CMC
James Huang	Intertek
Jan Erik Nielsen	SKN
João Santos	CERTIF
Julien Heintz	CETIAT
Kiro Mitevski	Solar Test Center in Skopje
Korbinian Kramer	ISE
Kostas Lampadarios	ELOT
Marco Trionfetti	ICIM
Maria João Carvalho	LNEG
Martin Persson	SP
Patrick Hauser	TiSun / Austria Solar
Pavel Vanek	ITC Zlín
Pedro Dias	ESTIF
Peter Kovacs	SP
Ralf Koebbemann-Rengers	BDH
Rob Meesters	Solahart

Sebastian Laipple	SPF
Stamatios Babalis	Demokritos
Stephan Fischer	ITW
Susanne Hansson	SP CERT
Sören Scholz	DIN CERTCO
Teun Bokhoven	ESTIF
Ulrich Fritzsche	TÜV Rheinland
Vinod Sharma	ENEA
Wolfgang Eisenmann	Wagner / BSW
Achim Sadenwater	DIN CERTEO

Annex B: Presentation related to Annual collector energy output calculation tool

Calculation tool for collector annual energy output

Introduction to a new tool for institutes and certification bodies

To be used within the framework of Solar Keymark certification and the European standard for Solar Thermal collectors
EN 12975

Peter Kovacs
SP Technical Research Institute of Sweden



Calculation tool for collector annual energy output

• Purpose

- For test labs & certifiers to refine collector test results
- For end users to compare collectors
- Collector output only: No systems are simulated

• Assumptions

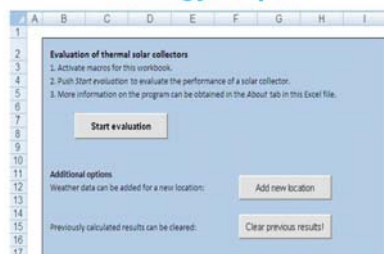
- Constant load
- Constant average temperature in the collector

• Applicability

- All kinds of collectors, including tracking collectors



Calculation tool for collector annual energy output



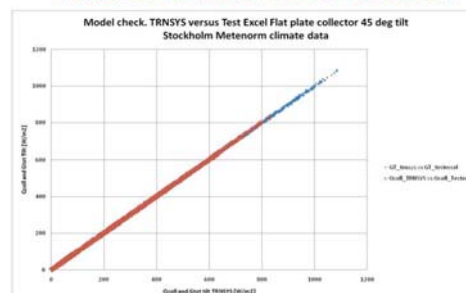
The output of the tool will be used to create input for the Solar Keymark collector data sheets



Check of Beam Radiation Meteonorm, Excel tool and TRNSYS on horizontal and tilted surface



Result of collector model validation



Result of collector model validation

	GTot	GTbeam	Gdiff	Qcoll 25C	Qcoll 50C	Qcoll 75C
EXCEL Test sheet BP	1203.0	670.7	532.3	724.6	462.5	252.1
TRNSYS type 136 Hay	1204.5	672.7	531.7	722.8	460.9	251.0
Excel/TRNSYS	0.999	0.997	1.001	1.002	1.003	1.004

Twoair's track SOC	GTot	GTbeam	Gdiff	Qcoll 50C
EXCEL Test sheet BP	1649.5	1049.1	600.4	786.5
TRNSYS type 136 Hay	1651.4	1049.2	602.2	783.1
Excel/TRNSYS	0.999	1.000	0.997	1.004



Conclusions from check and validation

- Excellent agreement for irradiance calculation onto tilted surfaces
- Excellent agreement for the collector model compared to Trnsys Type 136 for different operational modes
- Steady state model to be extended to unglazed collectors
- "Extreme designs" remain to be checked



Thank you for your attention!



Annex C:

Presentation related to Guidelines for the assessment of collector and system documentation

<p>CERTIF – Associação para a Certificação</p> <p style="text-align: center;">GUIDELINE FOR THE ASSESSMENT OF SOLAR COLLECTORS AND SOLAR SYSTEMS TECHNICAL DOCUMENTATION</p>	<p>CERTIF – Associação para a Certificação</p> <ul style="list-style-type: none"> ➤ EN 12975-1 (Clauses 7.2 and 7.3) and EN 12976-1 (Clauses 4.6.2, 4.6.3 and 4.7) specify the minimum information that shall be included in the Technical Documentation of the products (Labels and Instruction Manuals for Installers and Users). ➤ No Solar Keymark Certificate shall be issued unless the Technical Documentation fully complies with the requirements of the applicable standard.
<p>CERTIF – Associação para a Certificação</p> <ul style="list-style-type: none"> ➤ The establishment of harmonized criteria for the evaluation of the specified requirements in the applicable standards regarding Technical Documentation is important. ➤ The definition of an harmonized criteria is also important for all the parties involved in Solar Keymark Certification. 	<p>CERTIF – Associação para a Certificação</p> <ul style="list-style-type: none"> ➤ Evidence of the check and fulfillment of the specified requirements shall be given either in the Laboratory Test Report or in an additional document issued by the Certification Body.
<p>CERTIF – Associação para a Certificação</p> <ul style="list-style-type: none"> ➤ Proposal: <p>Approval of the proposed forms for use within the SK Network so that all interested parties know how the requirements of the standards can be interpreted and an harmonized practice can be implemented.</p> <p style="text-align: right;"><i>Thank you for your attention.</i></p>	<p>CERTIF – Associação para a Certificação</p> <div style="text-align: center;">  <p>Associação para a Certificação</p> </div>

Annex D: Presentation related to Revision of Annex D of SK scheme rules, section D4

Proposal for Revision of Annex D - Section D4/D4.1.

Maria João Carvalho, LNEG

22/23 March 2011

10th Solar Keymark Network
Meeting - Brussels



Set of systems verifies Section D1 and D2
⇒ the system family can be formed

Extrapolation can only be applied if section D4 is also verified.

Present limitations for thermosiphon systems tested according to CSTG test method, i.e. ISO 9459-2.

Test method applied:	ISO 9459-2 (CSTG)		ISO 9459-5 (DST)			
	Solar only		Solar only		Int. back-up	
Forced Circ. / Thermo-Siphon:	FC	TS	FC	TS	FC	TS
Method I (f-chart) valid:	✓	✓	✓	✓	✓	✓
Method II (DST) valid:			✓	✓	✓	✓

22/23 March 2011

10th Solar Keymark Network
Meeting - Brussels

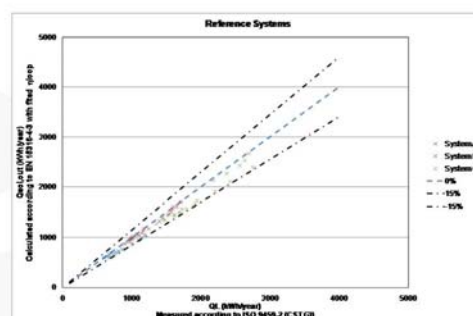


Validation needed in order to apply extrapolation

- Three families of systems were considered.
- In each family, two systems were tests - Thermal Performance.
- One system was selected as reference system in agreement to Section D3.
- The other system tested was used as Verification System.

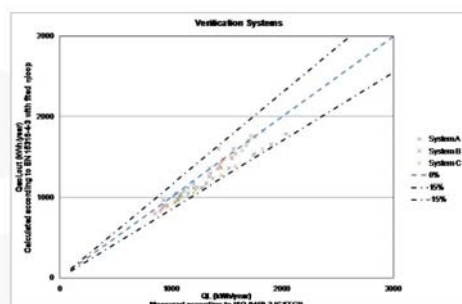
22/23 March 2011

10th Solar Keymark Network
Meeting - Brussels



22/23 March 2011

10th Solar Keymark Network
Meeting - Brussels



22/23 March 2011

10th Solar Keymark Network
Meeting - Brussels



Proposals of revision:

- New Table:

Test method applied:	ISO 9459-2 (CSTG)		ISO 9459-5 (DST)			
	Solar only		Solar only		Int. back-up	
Forced Circ. / Thermo-Siphon:	FC	TS	FC	TS	FC	TS
Method I (f-chart) valid:	✓	✓	✓	✓	✓	✓
Method II (DST) valid:			✓	✓	✓	✓

22/23 March 2011

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Proposals of revision:

- Criterion for acceptance of extrapolation

Calculation of the deviation for all locations and loads according to:

$$\delta = \frac{(Q_{d,ref,measured} - Q_{d,ref,Method1(f-chart)})}{Q_{d,ref,measured}} \times 100 \text{ (\%)}$$

If $\delta \leq \pm 15\%$ the extrapolation can proceed.









22/23 March 2011

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Annex E:

Presentation related to Report of the 1. Meeting of the Solar Keymark Certification Bodies

<div style="text-align: center;">  <p>Report from Certification Body Group and Inspection Group</p> <p>Sören Scholz, 10. SKN Meeting in Brussels</p> <p>We create confidence!</p>    </div>	<div style="text-align: center;">  <p>Summary of the 1. Certification Body Meeting</p> <ul style="list-style-type: none"> Time and Place: 2011-01-13 at DIN CERTCO in Berlin Participants: AENOR, CERTIF, CERTITA, DIN CERTCO, KIWA, SP, TSU Aim of the CB meeting: <ul style="list-style-type: none"> accreditation related subjects to ensure the confidence in the Solar KEYMARK discussions related to the certification procedure certification relevant documents The presentations of the CB working methods showed: <ul style="list-style-type: none"> CB are complying with requirements of the Solar KEYMARK Specific Rules differences in the accreditation requirements (e.g. the role of certification committees), inspector qualification requirements some CB have other certification schemes for solar collectors with their own Specific Rules </div>
<div style="text-align: center;">  <p>Summary of the 1. Certification Body Meeting</p> <ul style="list-style-type: none"> Discussion about the Specific Rules showed: <ul style="list-style-type: none"> Some CB use <u>further documents</u> with the same and more detailed information especially when they still grant a national mark. reason for this are sometimes <u>internal rules</u> or <u>accreditation requirements</u> which need to be followed. the <u>existing documents</u> seem to be <u>not always clear</u> in interpretation and thus can be improved. Discussion about Inspection Bodies showed: <ul style="list-style-type: none"> different requirements for the <u>recognition of inspectors</u> In some countries an accreditation for Inspections Bodies is obliged. A <u>training</u> taking into account difficulties and experience of all inspectors could be useful. <u>Comparison of the different requirements</u> (harmonization) with the input of all parties who are involved in the inspections (testing laboratories and Inspection Bodies). </div>	<div style="text-align: center;">  <p>Action Plan and priorities for Inspection Group</p>  <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Prepare a table with differences concerning accreditation and inspection bodies (only internal document) <input checked="" type="checkbox"/> Collect the input for improvement of <u>relevant certification documents</u> from 6 CB <input checked="" type="checkbox"/> 1. Solar KEYMARK Inspection Group meeting (2011-05-24 in Cologne) <ul style="list-style-type: none"> 20 Inspectors will up to now take part (<u>see DocRef</u>) exchange of experience (problems, documents, non-conformities etc.) input on improvements on specific rules and inspection reports <input checked="" type="checkbox"/> Second CB meeting on 2011-06-21 <input checked="" type="checkbox"/> SKN meeting in October for final approval documents <input checked="" type="checkbox"/> Inspection Group meetings in combination with SKN as a European group (in future no national groups required?) </div>

Annex F: Presentation related to QAiST

 <p>QAiST Quality Assurance in Solar Heating and Cooling Technology</p> <p>Solar Keymark Network meeting</p> <p>Brussels, Belgium 22-23 March 2011</p> 	<p>Work in Progress</p> <p>WP2: Solar thermal collectors WP3: Solar thermal systems WP4: Quality assurance of testing WP5: New areas for quality assurance systems</p>  
<p>Update on status of the Work Packages</p> <p>WP2: Solar thermal collectors</p> <p>(Four abstracts for the ISES conference:</p> <ul style="list-style-type: none"> - Overview of the work in CEN/TC 312/WG1 "Collectors" - Compatibility between Steady state and Dynamic testing - Calculation tool for collector annual energy output - Air collectors)  	<p>D 2.1 Performance of mid temperature collectors (CENER lead)</p> <p>D 2.2 Durability of collectors and materials (ISE lead)</p> <p>Broad consensus revision proposals for the EN12975 standard which is to be revised in two steps:</p> <ul style="list-style-type: none"> - First step driven by EC request for CE marking. Draft for public inquiry ready in spring 2011, implemented in 2012. <u>May be an EN ISO based on EN12975.</u> - Contents are e.g. harmonized annex ZA, tracking collectors in the scope, improved durability tests, Task X method on selective coatings integrated, air collectors included - Second step Further work on an EN ISO standard. Draft for public inquiry in 2012 - Contents are e.g., focusing on ETC:s and further on collector materials  
<p>D 2.3 Guide to EN 12975 (SP lead, Due June 2011)</p> <ul style="list-style-type: none"> • Five main partners working on two deliverables, one targeted at test labs, one at manufacturers → • LNEG-Durability • ISFH- SS testing of unglazed collectors • DEMOKRITOS- SS testing of glazed collectors • AIT- Definitions and interpretation of test results • SP –Quasi dynamic testing and the rest • All remaining partners provide additional input and review. Industry review?!   	<p>T2.3 Performance calculation tool</p> <ul style="list-style-type: none"> – Extension to unglazed and tracking/concentrating collectors now implemented – Currently being checked and fine tuned by several partners – To be further presented at this meeting – To be included in Scheme rules and in EN 12975 asap   

Update on status of the Work Packages

WP3: Solar thermal systems



WP 3: Solar thermal systems

Improvement of the standards:

- **Factory Made Systems / Custom Built Systems**
(EN 12976 Part 1 and 2) / (CEN/TS 12977 Part 1, 2, 4 and 5 and EN 12977 Part 3)
 - **Clear separation of REQUIREMENTS and TEST METHODS**
 - **Clarification of applicable reliability tests (DIFFERENT TYPES of SYSTEMS):**
 - need of additional reliability tests.
 - **Clarification of the aspects related to documentation (USER; INSTALLER)**
 - For **Custom built systems**, possibility of future certification of Storage tanks and complete systems according to improved standards



WP 3: Solar thermal systems

Improvement of the standards (cont.)

- **Outcomes**
 - Preliminary proposals of presented in CEN TC 312 WG2/WG3 Meeting in Munich (June 2010);
 - A draft of the standard is in preparation still needing discussion within project partners;
 - Profiting from the ongoing Round Robin for Systems (QAIST – WP4), some aspects related to clarification of tests and of analyses of documentation are being addressed.



WP 3: Solar thermal systems

Development of an extrapolation procedure

- that proves to be valid for different types of systems allowing for flexibility in the definition of families of systems and reducing test costs for the manufacturers

- **Outcomes:**
 - Two different methodologies now available in Solar Keymark Scheme Rules
 - Application of these methodologies by Labs
 - Proposals for revision expected (**one presented at 10th SKN meeting**)



WP 3: Solar thermal systems

Development of a procedure for converting the test result into results valid for the “EU reference tapping cycles”

- necessary for Labeling of systems according to European Directive for Eco-Design
 - How to apply this procedure to tests performed with DST/CSTG test methodologies?

Outcomes:

- First application with DST for Factory Made and Custom Built Systems
- First proposal for application with CSTG test results – to be validated.



WP 3: Solar thermal systems

Definition of concept: Hot Water Comfort (STS)

- **Outcomes:**
 - First document with the revision of the existing test methods for assessment of Hot Water Comfort was prepared
 - Presentation and discussion at CEN TC 312 WG2/WG3 meeting / some additional methods suggested.



Update on status of the Work Packages

WP4: Quality assurance of testing



WP 4: Quality assurance of testing

- ★ T 4.1 Solar Keymark Network
- ★ T 4.2 Round Robin performance testing thermal collectors according to EN 12975
- ★ T 4.3 Round Robin testing of factory made systems according to EN 12976



WP 4: Quality assurance of testing

- ★ T 4.1 Solar Keymark Network
 - Support the work of the SKN
 - Rapperswil 15-16 March 2010
 - Graz, Austria 7-8 October 2010
 - Brussels, Belgium, 22-23 March 2011



WP 4: Quality assurance of testing

- ★ T 4.2 Round Robin Collector
 - Organization, managing and evaluation by independent body (IfEP GmbH)
 - 13 flat plate and 13 evacuated tubular collectors with CPC collectors
 - Each participant test 2 collectors of both types (4 tests)
 - Rotation of the test collectors in winter 2010/2011 (completed)
 - Midterm results will be presented by IfEP March 23rd
 - Final results expected October 2011
 - Participants: *CENER, CSTB, DEMOKRITOS, AIT, LNEG, IPIEO, ISE, ISFH, ITC, IZES, SP TÜV, ITW*



WP 4: Quality assurance of testing

- ★ T 4.2 Round Robin Collectors
 - Additional participants
 - ASIC
 - Bosch Solarthermie GmbH
 - 6 North american test labs
 - Collectors, transport, evaluation and all other expenses caused by the Round Robin will be covered by the additional participants
 - In order not to influence the result of the QAiST Round Robin the evaluation will be done in parallel by IfEP



WP 4: Quality assurance of testing

- ★ T 4.3 Round Robin Systems
 - Managing and evaluation by independent body (IfEP GmbH)
 - 9 thermosyphon and 9 forced circulation systems
 - Each participant will test 2 systems (4 tests)
 - Rotation of the test collectors in winter 2010/2011 (completed)
 - Midterm results will be presented by IfEP March 23rd
 - Final results expected October 2011
 - Participants: *CENER, CSTB, DEMOKRITOS, LNEG, ISE, ISFH, IZES, TÜV, ITW*



Update on status of the Work Packages

WP5: New areas for quality assurance systems



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EUROPE

WP 5: New areas for quality assurance systems

Objectives

- To develop a basic set of requirements and test methods for emerging areas of solar thermal energy

Application is already on the market => need for quality assurance measures not covered by any standards so far e.g. large solar thermal systems, solar cooling

OR

Application is new on the market => no quality assurance measures existent yet e.g. combined solar & heat pump systems



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WP 5: New areas for quality assurance systems

Structure of the WP



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WP 5: New areas for quality assurance systems

Planned outcome (1)

Task 5.1: Performance references and test methods for HP+ST

- Market survey on available data about combined systems
- Elaboration of a system overview of combined systems
- Survey on available testing standards
- View and comparison of the existing testing standards

- Classification of different systems
- Development of quality enquiries on combined systems based on the previous research results

D5.1: Technical report on combined ST+HP systems with system overview and quality requirements



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WP 5: New areas for quality assurance systems

Status and outlook Task 5.1

- Overview of present HP+ST systems in cooperation with Task 44/Annex 38 ongoing. A number of countries already covered.
- ST and HP relevant standards collected and currently being analysed for extension possibilities regarding combined systems. Since a number of system test methods is currently being developed, the focus will be on the special requirements for combined systems – different operation conditions, control strategies etc.



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WP 5: New areas for quality assurance systems

Planned outcome (2)

Task 5.2: Function and yield controlling of large solar thermal systems

- Updating the market survey on available data on F&YC based on previous work by contacting major stakeholders in each participating country
- Exchange of technological descriptions and technical discussion on various F&YC systems in a workshop

- Objective redefinition: Strategic FYC planning?

D5.2: Setting up basic requirements for a FYC Roadmap?



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WP 5: New areas for quality assurance systems

Status and outlook Task 5.2

- Currently available function and yield control concepts have been collected and reviewed in a document available on the project web page (restricted area).
- The new VDI 2169 guideline is available as a draft version (Gründruck). An internal discussion (workshop) between project partners will be initiated.

**WP 5: New areas for quality assurance systems**

Status and outlook Task 5.2

- was concluded in the group, that the final goal of this task – harmonized technical approach on F&YC – cannot be reached within the project, also due to the fact that only one product is currently commercially available. A new task objective is currently being defined in an ongoing discussion. One possible objective would be to set the basis for the strategic roadmap for the development and implementation of F&YC.

**WP 5: New areas for quality assurance systems**

Planned outcome (3)

Task 5.3: Quality requirements for solar cooling systems

- Definition of requirements for durability and performance evaluation for solar cooling systems



D5.3: Technical report on the requirements for durability and performance testing for solar cooling systems

**WP 5: New areas for quality assurance systems**

Status and outlook Task 5.3

- A standardised questionnaire has been developed and distributed to collect the data on running solar cooling systems in participating countries.
- First results from the collected data, including qualitative assessment of the installations in terms of performance and quality, were presented at the last meeting. Data collection and evaluation ongoing.
- Based on the results, additional in-depth questionnaire and experts' interviews are being planned.

**WP 5: New areas for quality assurance systems**

Status and outlook Task 5.3

- The collection of relevant standards and other normative documents is ongoing. The documents will be analysed and used as a starting point for the development of test method proposals.
- A definition of best practice and lessons learned will be published on the project web page (restricted area)

**Update on status of the Work Packages**

WP6&7: Communication and Dissemination



WP 6&7: Communication and Dissemination

T6.1 Distr. dissemination of project results

- Prepare info-release for 2011 targetted to specific countries
- Inform on CE marking mandate & planned revisions
- Previously: update of national reports from SK II
 - AT, DK, FR, DE, GR, IL, IT, PL, PT, SP, SE

T6.3 Project Website

- QAIST intranet (discussion board)



WP 6&7: Communication and Dissemination



WP 6&7: Communication and Dissemination

T6.5 WP6/ International harmonization

- Broad European participation in IEA SH&C Task 43 on global standards and certification--> Harmonization in practice!
- Agreed with ISO/TC 180 to have the ISO 9806 revision follow closely that of EN 12975



WP 6&7: Communication and Dissemination

T6.5 SK implementation in CEE NMS

- Workshop South-Eastern Europe
 - Bucharest, Romania: 25 November
 - Cooperation with REECO (Renexpo)
 - Approx. 80 participants
- Workshop Northern Europe
 - Spring 2010 (tbc)
 - Cooperation IPIEO (now PIMEO)



WP 6&7: Communication and Dissemination

- T6.5 SK implementation in CEE NMS
 - Information package for CEE new members states produced
 - Brochure produced
 - Translations to be done
 - Participation of NMS partners at SKN Meetings (T4.2)
 - Cyprus / Slovakia / Czech Republic
 - Macedonia (FYRO)






















WP 1: Management
















Input from

- SC WG (on-going)
- Industry Steering Group (22/4/2011)
- Steering Committee STTP / RHC-Platform (8/2/2011)
- Further discussion with ISG – Webinar (April)



Annex G: County Report Macedonia

<p style="text-align: center;">Quality assurance measures for solar thermal products in Macedonia</p> <div style="display: flex; justify-content: space-between; align-items: center; margin-top: 10px;">   <div style="text-align: center;">  <p>10th SKN Meeting March 22nd-23rd 2011 Brussels</p> </div> <div style="text-align: right;"> <p>A. D. Prodanov K. Mitevski</p> </div> </div>	<p style="text-align: center;">Regulatory Framework</p> <p>Building Regulation (general)</p> <ul style="list-style-type: none"> • There are no special rules / regulations for solar thermal systems / components in the building regulation. • There is a book of rules for energy efficiency of new constructed buildings. • There is a strategy for energy development in Republic of Macedonia till 2030, this is prepared from ministry of Economy. <div style="display: flex; justify-content: space-between; align-items: center; margin-top: 10px;">   <div style="text-align: center;">  <p>10th SKN Meeting March 22nd-23rd 2011 Brussels</p> </div> <div style="text-align: right;"> <p>A. D. Prodanov K. Mitevski</p> </div> </div>
<p style="text-align: center;">Public Incentives (subsidies, ordinances or other)</p> <p>Relevant incentives</p> <ul style="list-style-type: none"> • In 2007 and 2009, 500 consumers who have installed a complete solar system 30% from the investment in the system (up to 300 Euros) was returned back. • No requirements for support schemes was needed. • It should be prove that the complete system was installed, as well as confirmation of the spend money. Anyone who installed a solar system have opportunity to apply for stimulation, no other special requirements was needed. <div style="display: flex; justify-content: space-between; align-items: center; margin-top: 10px;">   <div style="text-align: center;">  <p>10th SKN Meeting March 22nd-23rd 2011 Brussels</p> </div> <div style="text-align: right;"> <p>A. D. Prodanov K. Mitevski</p> </div> </div>	<p style="text-align: center;">Testing</p> <ul style="list-style-type: none"> • There is test laboratory that is equipped to perform testing of solar collectors according EN/ISO standards for solar collectors. This laboratory is part from Hydrometeorological Service of R. Macedonia (HMS). This laboratory is not yet accredited. <div style="display: flex; justify-content: space-between; align-items: center; margin-top: 10px;">   <div style="text-align: center;">  <p>10th SKN Meeting March 22nd-23rd 2011 Brussels</p> </div> <div style="text-align: right;"> <p>A. D. Prodanov K. Mitevski</p> </div> </div>
<p style="text-align: center;">Solar Test Center</p>  <div style="display: flex; justify-content: space-between; align-items: center; margin-top: 10px;">   <div style="text-align: center;">  <p>10th SKN Meeting March 22nd-23rd 2011 Brussels</p> </div> <div style="text-align: right;"> <p>A. D. Prodanov K. Mitevski</p> </div> </div>	<p style="text-align: center;">Certification</p> <ul style="list-style-type: none"> • There is no national scheme for product and installer certification. <div style="display: flex; justify-content: space-between; align-items: center; margin-top: 10px;">   <div style="text-align: center;">  <p>10th SKN Meeting March 22nd-23rd 2011 Brussels</p> </div> <div style="text-align: right;"> <p>A. D. Prodanov K. Mitevski</p> </div> </div>

<p style="text-align: center;">Insurance</p> <hr/> <ul style="list-style-type: none"> • There is no insurance for solar collectors and systems. Some insurance companies insure collectors and systems as part of insurance of building. <div style="display: flex; justify-content: space-between; align-items: center; margin-top: 20px;">   <div style="text-align: center;">  <p>10th SKN Meeting March 22nd-23rd 2011 Brussels</p> </div> <div style="text-align: right;"> <p>7 A. D. Prodanov K. Mitevski</p> </div> </div>	<p style="text-align: center;">Other relevant information</p> <hr/> <ul style="list-style-type: none"> • Reduced cost of customs and VAT on solar collectors and components. • There are stimulations, but these incidents are given. • A workshop was held from the Association for Solar Energy - Solar Macedonia - for Solar heating systems integrated into roofs and facades. <div style="display: flex; justify-content: space-between; align-items: center; margin-top: 20px;">   <div style="text-align: center;">  <p>10th SKN Meeting March 22nd-23rd 2011 Brussels</p> </div> <div style="text-align: right;"> <p>8 A. D. Prodanov K. Mitevski</p> </div> </div>
<p style="text-align: center;">Trade Barriers</p> <hr/> <ul style="list-style-type: none"> • There are no trade barriers. <div style="display: flex; justify-content: space-between; align-items: center; margin-top: 20px;">   <div style="text-align: center;">  <p>10th SKN Meeting March 22nd-23rd 2011 Brussels</p> </div> <div style="text-align: right;"> <p>9 A. D. Prodanov K. Mitevski</p> </div> </div>	<p style="text-align: center;">Action needed</p> <hr/> <ul style="list-style-type: none"> • Management and entity of the Solar Test Center should be establishing in accordance with ISO/IEC 17025 standard. • Solar Test Center should be accredited. • It is necessary to establish a national scheme for certification of solar collectors and systems and national scheme for certification of installer. • It is necessary government to give stimulations only for collectors with proven quality. • It is necessary to educate consumers to buy solar collectors with proven quality. <div style="display: flex; justify-content: space-between; align-items: center; margin-top: 20px;">   <div style="text-align: center;">  <p>10th SKN Meeting March 22nd-23rd 2011 Brussels</p> </div> <div style="text-align: right;"> <p>10 A. D. Prodanov K. Mitevski</p> </div> </div>
<p style="text-align: center;">Thank you for your attention</p> <div style="display: flex; justify-content: space-between; align-items: center; margin-top: 20px;">   <div style="text-align: center;">  <p>10th SKN Meeting March 22nd-23rd 2011 Brussels</p> </div> <div style="text-align: right;"> <p>11 A. D. Prodanov K. Mitevski</p> </div> </div>	

Annex H: County Report Czech Republic

 <h3>Quality assurance of solar technology products in the Czech Republic</h3> <div style="border: 1px solid black; padding: 10px; margin: 10px auto; width: 80%;"> <p>Solar Keymark Network meeting, March 22 – 23, 2011 Pavel Vaněk, ITC Zlín</p> </div> 	  <h3>Brief introduction of ITC</h3> <ul style="list-style-type: none"> Institute for Testing and Certification, Inc. (ITC) is a Czech private testing and certification body aimed to the testing and certification of a broad products scope. ITC headquarters is situated in the city of Zlín. Accreditation scope of the ITC laboratories and Product certification body covers: <ul style="list-style-type: none"> chemical products, plastics and rubber, leather products, ceramics, medical devices, electrical equipment, consumer goods, foods, construction products, pipe systems, solar collectors and systems, PV Notified Body No. 1023 scope: <ul style="list-style-type: none"> Toys PPE Medical devices Active implantable med. devices In vitro diagnostics LVD and EMC Pressure equipment Construction products 
<h3>Czech regulation aimed to solar collectors and systems</h3>  <h4>1. Placing on the Czech market</h4> <ul style="list-style-type: none"> The NLF principle is implemented into Czech law by the Act No. 22/1997 Coll. This act provides for transposition of the New Approach directives by Czech Government Orders. Construction product directive CPD is transposed by 2 Government Orders (GO): <ul style="list-style-type: none"> Construction products bearing CE marking → GO 190/2002 Coll. Construction products not having CE → GO 163/2002 Coll. In the Annex 2 of the GO 163/2002 Coll., the construction products families and groups are specified, including: <ul style="list-style-type: none"> Products family No. 10: Technical Equipment of the Buildings Subgroup No. 7: Equipment for heating internal spaces without own power supply (The Solar Collectors and Solar Energy Absorbers are members) Czech Authorized Bodies are participating on the Assessment of Conformity (AoC) procedures <ul style="list-style-type: none"> either Initial Type Testing (ITT) (Module 3 in CPD) or Certification (ITT + FPC) (Module 1 in CPD) The obligation to conduct AoC procedures relates to products originating from the Czech Republic and from third countries. It does not relate to collectors manufactured or already placed on the market of any EU/EFTA state. <ul style="list-style-type: none"> this provision is valid and applied <i>de jure</i> however, it is not applied <i>de facto</i>, because architects and other customers are asking for certificates even in the case of the collectors originating in the EU Member States. 	<h3>Czech regulation aimed to solar collectors and systems</h3>  <h4>2. Installation into construction works</h4> <p>General requirements to construction works are specified in the Building Act No. 183/2006 Coll. Certain implementing regulations relate to solar collectors:</p> <ul style="list-style-type: none"> Decree No. 268/2009 Coll. on general technical requirements for buildings contains <ul style="list-style-type: none"> requirements for consideration of alternative energy sources in the building design installation requirement related to the heat sources Decree No. 23/2008 Coll. on fire requirements <ul style="list-style-type: none"> estimation of the heating equipment safe distance from products of the reaction to fire classes B to F reference to the Czech standard ČSN 06 1008 Fire safety of the heating equipment. Decree No. 148/2007 Coll. on energy performance of buildings <ul style="list-style-type: none"> implements among others requirements of the EU Directive 2002/91/EC the evaluation shall consider the possibility to install alternative energy sources incl. collectors Decree No. 213/2001 Coll. on energy audits <ul style="list-style-type: none"> one of the steps in the energy auditing of buildings is an evaluation of the economical efficiency (profitability) of the alternative sources of energy
<h3>Czech regulation aimed to solar collectors and systems</h3>  <h4>3. Specific requirements for installation into construction works</h4> <ul style="list-style-type: none"> Drinking water contact <ul style="list-style-type: none"> Where the water should be used as a warm water for human consumption, all parts coming into contact with the water should be subject of the hygienic regulation Decree No. 409/2005 Coll. is establishing <ul style="list-style-type: none"> criteria for plastic products criteria for rubber products criteria for metallic parts criteria for concrete and cement-based linings criteria for surface finishing requirements for analytical testing methods preparation of eluates for migration tests evaluation of the migration results Durability – no regulation Wind and snow load – no regulation, but Eurocodes are applicable 	<h3>Registration of the solar collectors and systems in the Czech Republic</h3>  <h4>Obligatory registration:</h4> <p>There is not any obligatory registration of manufacture, installation or use of solar panels. However, the design and installation in the building is subject of a building office approval process including on-site inspection.</p> <h4>Voluntary registration:</h4> <p>Registration is needed, if the user or owner of the house has applied for financial support in the frame of the Czech environmental funding programme called Green Savings.</p> <p>The registration is requested for:</p> <ul style="list-style-type: none"> Applicants for the Green Savings financial support Products and systems - only products registered in the List of Products and Technologies are supported Suppliers/installers of products and systems – only services of companies registered in the List of Qualified Suppliers are supported 

Solar Collectors Safety Control



Mandatory Assessment of Conformity

- ✓ The conformity assessment required by the Czech G.O. 163/2002 Coll. is aimed preferably to the safety issues.
- ✓ A common approach of all Czech Authorized Bodies is assured by coordination mechanism utilizing documents called Technical Guides issued for specific products.
- ✓ The Technical Guide No. 10_07_06 relates to the Solar Collectors and Systems. It is based on the requirements of standards EN 12975-1 and 12976-1, the prescribed testing methods are adopted from the standards EN 12975-2 and EN 12976-2.
- ✓ The required assessment and testing includes:
 - Checking of the compliance with technical documentation, marking, instruction for use and maintenance
 - Internal pressure resistance test
 - Resistance to overheating and high temperature
 - Mechanical load resistance
 - Resistance to environmental impact
 - Safety equipment functionality
 - Heat output testing
 - Factory production control (FPC) assessment
 - Periodic surveillance of the FPC

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Public subsidy: Green Savings



Green Savings Programme

concerns with lot of means for saving energy in buildings, including thermal insulation, heat pumps and solar collectors and systems utilization. The buildings owners and users are encouraged to combine the different measures for limiting energy losses and using alternative sources of energy.

- **Form of subsidy** = direct financial support (2200 – 3200 EUR per family house, 1400 – 2000 EUR per one flat)
- **Supported subjects** are both companies and natural persons improving energy performance of the family houses or blocks of flats

The conditions for Green Savings subsidy granting:

- ❖ solar systems for warm water preparation only:
calculated annual solar heat gain $\geq 360 \text{ kWh per } 1 \text{ m}^2$ of the collector aperture
- ❖ solar systems for warm water preparation combined with house heating:
calculated annual solar heat gain $\geq 280 \text{ kWh per } 1 \text{ m}^2$ of the collector aperture

AND simultaneously

- ❖ total annual heat gain for system installed on the family house $\geq 1100 \text{ kWh per one house}$
- ❖ total annual heat gain for system installed on the block of flats $\geq 760 \text{ kWh per one flat unit}$

AND simultaneously

- Products, manufacturers and installers of the solar systems shall be registered at Ministry of the Environment

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Public subsidy: Eco-Energy



Eco-Energy Programme

promotes the enhancing of the efficiency at the production, transfer and consumption of energy and/or alternative heat sources utilization by Small and Medium Enterprises (SME)

- using heat pumps and solar collectors for heating of the non-residential rooms is a specific part of this programme.
- **Form of subsidy** = direct financial support
- **Supported subjects** are SMEs

The conditions for Eco-Energy subsidy granting:

- ❖ minimal/maximal subsidy granted: 0.5 mil. CZK/260 mil. CZK (20 000 EUR/10 mil. EUR)
- ❖ supported share in case of collectors: 30 % of eligible costs
- ❖ eligible costs: designing, engineering, investment (properties and equipment), reconstruction, advertisement
- ❖ place of the business shall be in the Czech Republic

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Testing Facilities



Three testing laboratories are available in the Czech Republic

1. **Institute for Testing and Certification, Inc. (ITC)**, www.itc-zlin.cz



- ✓ full testing scope
- ✓ tests are accredited
- ✓ no subcontracting of tests

2. **Engineering Test Institute**, www.eti-test.cz



- ❑ testing scope limited to mechanical and hydraulic properties (no heat output)
- ✓ selected tests are accredited
- ❑ subcontracting is necessary for complete assessment

3. **SOLab, Czech Technical University laboratory**, <http://solab.fs.cvut.cz>



- ❑ testing scope limited to heat output, resistance to high temperature and environmental impact
- ❑ non-accredited laboratory
- ❑ subcontracting is necessary for complete assessment

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Product Certification Schemes



1. CERTIFIED FOR BUILDINGS mark

- **Mark owner:** Association of Construction Testing Labs
- **Products covered:** All construction products
- **Aim:** Certification of compliance with specific Czech legislation related to construction products installation into buildings
- **Certification Bodies:**
 - Institute for Testing and Certification
 - Technical and Test Institute for Construction
 - Centre of Building Construction Engineering
 - Research Institute for Building Construction
 - Qualiform
- **Success:** - Poor

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Product Certification Schemes



2. SOLAR KEYMARK

- **Status of knowledge:** Good among manufacturers, Weak among common users
- **Status of acceptance:** The manufacturers are acquainted with the Solar Keymark. 12 certified collectors originating from 7 Czech companies. However, the small manufacturers are afraid of high certification expenses
- **Certification Bodies:** No Czech Certification Body has been approved yet. ITC decided to apply to CEN Certification Board (via the Czech Member of CEN – the Czech Office for Standards, Metrology and Testing - COSMT) for the license:
 - ITC has standards EN 12975-1 in the scope of the Product Certification Body accreditation
 - ITC has the standards EN 12975-2 in the Laboratory accreditation scope
 - promotional actions are necessary

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Installers' Certification



1. **Particular certification** of persons or companies performing solar collector system installation **is not requested** by the Czech law.
2. Only common Trade certificate is necessary having in the scope building activities.
3. For the participation on the **GREEN SAVINGS** programme, the Installers of products and systems shall be registered in the List of Qualified Suppliers at the **Czech Ministry of Environment**

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Other necessary marking



1. The Czech legislation does not require any marking specific for solar collectors and systems.
2. However, certain parts of the solar system and collectors themselves could be regulated by New Approach directives, e.g.:
 - Tanks for collection of warm water, heat exchangers and collectors can be subject of the **Pressure Equipment Directive 97/23/EC** (exact classification depends on the Pressure/Volume conditions of the product)
 - Electrically powered pumps and control equipment is subject of the directives **2006/95/EC** (electrical safety - LVD) and **2004/108/EC** (electromagnetic compatibility - EMC)
3. The items mentioned in the clause 2 are subject of manufacturer's EC-Conformity Declaration and **CE marking** of each product.

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Barriers of the Trade



1. Main legal barrier is created by specific national provisions relating to installation of construction products (including the collectors and systems) into buildings and other civil construction works. Nevertheless, the European Commission do not wish to establish any harmonization of requirements to construction works.
2. In the Czech Republic, the above mentioned national provisions are subject of the certification according to the Government Order No. 163/2002 Coll. This certification does not relate to products manufactured or already placed on the market of other EU/EFTA Member State and Turkey. Despite of this fact, many customers are asking for the GO 163/2002 Coll. Certificate and/or for the voluntary mark „Certified for Buildings“.

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Actions needed



1. **Regulation**
For trade barriers reduction, the harmonization of the standards EN 12975-1 and EN 12976-1 is strongly recommended. After publishing of the standards in OJEU the collectors and systems will belong to harmonized sphere and the obligatory CE marking should apply. Generally, the Member States cannot prevent from placing of the CE marked products on their markets. So, one of the potential trade barrier will be removed.
2. **Testing**
The Institute for Testing and Certification, Inc. intends to include its laboratory for solar collector testing to the Solar Keymark Network. To enhance the credibility, a participation in relevant interlaboratory testing is demanded.
3. **Certification**
The Institute for Testing and Certification, Inc. shall apply for empowering by CEN Certification Board according to prescribed procedure.


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*Thank you for
Attention*



Annex I: Presentation related to CE-Marking of collectors



CE-marking of solar collectors

Stephan Fischer

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Stephan Fischer BP SKN meeting, 22nd - 23rd March 2011, Brussels.

Requirements

CE marking according to the construction products directive (regulation)

requires a

harmonised Standard EN 12975

Stephan Fischer BP SKN meeting, 22nd - 23rd March 2011, Brussels.

Background

- Construction Product Directive** (Regulation) (Council Directive 89/106/EEC)
- Mandate M/129** (space heating appliances)
 - Space heating appliances without internal energy source
 - Space heating appliances burning solid and liquid fuels
- Mandate M/369** (amendment to M/129 taking into account Solar thermal systems)
 - Energy capturing appliances** (Thermal solar systems and components, including solar collectors)

Stephan Fischer BP SKN meeting, 22nd - 23rd March 2011, Brussels.

Requirements according M369

E R	PERFORMANCE CHARACTERISTICS	DURABILITY
1	Mechanical resistance to climatic loads (wind, snow, ...)	Y (Against, ... as relevant)
2	Fire safety (e.g. initiation, reaction to fire, risk to adjacent elements, ... as relevant)	
3	Release of dangerous substances*	
4	Surface temperature (except surfaces or parts which are associated with the transmission of heat)	
	Electrical safety**	
	Creepability	
	Maximum operating pressure	
5	Sound level	
6	Thermal output	
	Energy efficiency***	
	Thermal storage capacity (thermal inertia)	

* In particular, those dangerous substances defined in Council Directive 76/769/EEC (on the approximation of the laws, regulations and administrative provisions of the Member States relating to restrictions on the marketing and use of certain dangerous substances and preparations), as amended.
Covered by Low Voltage Directive (73/23/EEC)
Only when this is not already covered by Directive 90/269/EEC (of 21 May 1990 on safety requirements for new hot water boilers fired with liquid or gaseous fuels)

Stephan Fischer BP SKN meeting, 22nd - 23rd March 2011, Brussels.

New requirements according revised M369

Only for collectors in buildings!

Characteristics to be covered by the harmonised

E R	PERFORMANCE CHARACTERISTICS
1	Mechanical resistance to climatic loads (wind, snow, ...)
2	Fire safety (e.g. initiation, reaction to fire, risk to adjacent elements, ... as relevant)
3	Weather tightness (when relevant - i.e. for roof integrated or façade integrated collectors)

Stephan Fischer BP SKN meeting, 22nd - 23rd March 2011, Brussels.

New relevant issues








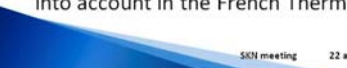





- Fire safety reference/tests to/according to EN 13501 and EN ISO 11925 necessary
- Weather tightness (inroof and infacade only) extension of rain penetration to complete inroof installation

Stephan Fischer BP SKN meeting, 22nd - 23rd March 2011, Brussels.

<div data-bbox="188 241 782 280">Institute for Thermodynamics and Thermal Engineering Research and Testing Centre for Thermal Solar Systems (TZS)Universität Stuttgart</div> <div data-bbox="188 302 207 470" style="writing-mode: vertical-rl; transform: rotate(180deg);">www.itw.uni-stuttgart.de</div> <div data-bbox="438 291 550 324">What is next?</div> <div data-bbox="255 324 742 616"><ul style="list-style-type: none">• Drafting of annex ZA• Drafting the chapter "Evaluation of Conformity" (Initial Type testing by notified body and Factory Production control)• Review and update of with the assistance of CEN consultant during enquiry• Approval in CEN/TC 312 WG 1 – spring/summer 2011 ?• Approval in CEN/TC 312 – autumn 2011 ?• In force 2012 ?</div> <div data-bbox="188 616 782 649"><div>Stephan Fischer</div><div>IPV SWK meeting, 22nd -23th March 2011, Bonnsh.</div><div></div></div>	<div data-bbox="813 241 1396 280">Institute for Thermodynamics and Thermal Engineering Research and Testing Centre for Thermal Solar Systems (TZS)Universität Stuttgart</div> <div data-bbox="813 302 833 470" style="writing-mode: vertical-rl; transform: rotate(180deg);">www.itw.uni-stuttgart.de</div> <div data-bbox="1093 291 1133 324">end</div> <div data-bbox="813 616 1396 649"><div>Stephan Fischer</div><div>IPV SWK meeting, 22nd -23th March 2011, Bonnsh.</div><div></div></div>
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Annex J:

Presentation related to the NF Certification of CERTITA

 <p style="text-align: center;">A French certification scheme: the NF Mark for Individual Domestic Solar Heaters</p>  <p style="text-align: right; font-size: small;">SKN meeting 22 and 23 March 2011</p>	<p>General framework: (1) What is the NF mark?</p>  <p>A certification mark owned by AFNOR, French member of CEN</p> <ul style="list-style-type: none"> ▶ Certification bodies are authorized by AFNOR Certification to grant NF marks : CERTITA is authorized in the field of HVAC products, and accredited against EN 45011. ▶ Product specifications are based on European product standards and additional requirements when appropriate. Quality management specifications are mainly based on ISO 9001.  <p style="text-align: right; font-size: small;">SKN meeting 22 and 23 March 2011</p> 
<p style="text-align: center;">General framework: (2)</p> <ul style="list-style-type: none"> ▶ For each specific certification scheme an Advisory Committee is established, where interested parties are represented. This Committee is consulted when NF rules are developed or revised. ▶ The certification scheme involves an initial approval stage and, after initial certification has been granted, a continuous surveillance process.  <p style="text-align: right; font-size: small;">SKN meeting 22 and 23 March 2011</p> 	<p style="text-align: center;">Aims of the NF Mark for Solar Water Heaters</p> <ul style="list-style-type: none"> ▶ Provide a reliable tool to be used when setting up French incentives for Thermal solar systems ▶ Develop a method involving simulations and tests in order to : <ul style="list-style-type: none"> – Allow a certification of SDHW systems : <ul style="list-style-type: none"> • With a fast implementation • With suitable costs for solar thermal manufacturers – Be consistent with the SolarKeymark <p>Allow performances of the systems to be fully taken into account in the French Thermal Regulation</p>  <p style="text-align: right; font-size: small;">SKN meeting 22 and 23 March 2011</p> 
<p style="text-align: center;">NF CESI : main features</p> <ul style="list-style-type: none"> ▶ Possibility, as a first step, to certify performances using a simulation tool according to EN 15316-4-3 with experimental input from EN 12975 tests ▶ Determination of performances of a range of systems using tests carried out on one system according to EN 12976 : method consistent with method I of Solar Keymark  <p style="text-align: right; font-size: small;">SKN meeting 22 and 23 March 2011</p> 	<p style="text-align: center;">NF CESI : product specifications</p> <ul style="list-style-type: none"> ▶ Certification is focused on thermal performances ; temperature protection and pressure resistance are not addressed. ▶ Electrical safety : evidence has to be provided that ITT have actually been made.  <p style="text-align: right; font-size: small;">SKN meeting 22 and 23 March 2011</p> 

Factory production control requirements

Requirements	NF CESI
General requirements from ISO 9001	✓
Specific verifications on storage tanks and regulation	✓
Electrical safety verifications	✓
Requirements for distributors	✓

March 2011

Certita

Follow-up procedures

Operations	NF CESI
Annual follow-up audits	✓
Verification tests	-Up to 5 NF certified ranges: one partial test every 2nd year - Beyond 5 certified ranges : 1 test every year
Reporting to the NF Mark special Committee	✓

March 2011

Certita

Conclusion : 2 complementary schemes

- ▶ NF uses European standards and is taking into account the French normative and regulatory framework.
- ▶ Reference documents :
http://www.certita.org/files/pdf_liste_autresproduits/REF-NF441ENG.pdf
- ▶ CERTITA , soon to be empowered for the Solar Keymark is proposing a global offer for systems.

March 2011

Certita