

Solar Keymark Network

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



List of Decisions

Revision 3

Date: April 17th, 2010

Preface:

This documents contains all the decisions made by the Solar Keymark Network up to the date mentioned above.

Decision D1.M8 – Nomination of industry representatives by national solar thermal trade associations

In countries where more than one national solar thermal trade association exists each trade association can nominate up to two national industrial representatives for participation in the Solar Keymark Network.

This decision was taken unanimously.

Decision D2.M8 – Revised version Solar Keymark Scheme Rules, Annex D

The participants present decided to accept the document N106R6AnnexDR3.

This decision was taken unanimously.

Decision D4.M8 – Certification of systems by using collector Solar Keymark certificates from a different certification body

The participants present decided that in general a certifier has to perform Solar Keymark system certification based on collector Solar Keymark certificates issued by other certification body.

In order to ensure that no system certificates are based on withdrawn collector certificates, Jan Erik Nielsen will elaborate an appropriate procedure.

This decision was taken with one negative vote.

Note:

According to the existing rules the manufacturer is already today required to inform, in addition to the certifier of the collector, also the certifier of the system about any changes related to the collector. In order to be sure that the manufacturer informs the certifier of the system about a withdrawal of the certificate for the collector, it is recommended to state the obligation clearly in the contract between the certifier of the system and the manufacturer.

Decision D5.M8 – Hot water tapping times

It was decided that the following tapping times should be used for the performance prediction:

Table 1: Data of reference locations and adjusted tapping time.

Reference locations	Longitude ¹	Time zone	Adjustment of standard time	Tapping time (CET ²)
Stockholm	18.07°	1	-0.20	17.80
Würzburg	9.90°	1	0.34	18.34
Davos	9.82°	1	0.35	18.35
Athens	23.70°	2	0.42	18.42

(table extracted from N0124R0) **Note:** Time given in Table 1 are decimal figures

Furthermore it was agreed that there is no need to re-calculate the results presented in already existing test reports.

The explicit tapping times should be included in a future version of EN 12976-2 and CEN/TS 12977-2.

This decision was taken unanimously.

Decision D6.M8 – Validity of Solar Keymark certificates in case of Alanod MIROTHERM and TiNOX energy Al coating

The participants present decided that in context with decision D1.M5, coatings on aluminium absorbers with the following brand names are considered as equivalent:

Alanod MIROTHERM and TiNOX energy Al and Bluetec eta plus_al

Note: This decision extends decision D1.M5: decision D5.M6 (Validity of Solar Keymark certificates in case of absorbers selective coated by different manufacturers check) and decision D9.M7 (Validity of Solar Keymark certificates in case of Tinox energy CU coating)

This decision was taken unanimously.

The discussion related to this topic showed that a revision of decision D1.M5 (Validity of Solar Keymark certificates in case of absorbers selective coated by different manufacturers are used) is needed. This is especially relevant with regard to the criteria specified in decision D1.M5.

For that propose the following **working group** was created:

Andreas Bohren (WG-leader), Korbinian Kramer, Stephan Fischer, Carsten Lampe, Christian Stadler, Franz Helminger, Costas Travasaros and Hannes Zannantoni.

The task of the working group is to elaborate a proposal as basis for a decision at next meeting.

Thermal insulation material

Criteria for considering different types of thermal insulation material for solar collectors as equivalent will be elaborated by Stephan Fischer and Andreas Bohren.

Decision D7.M8 – Display of Solar Keymark licence number on collector

The participants present decided that for new Solar Keymark certificates issued from 01. May 2010 onwards it is only allowed to display the Solar Keymark logo on the collector together with the Solar Keymark licence number.

For Solar Keymark certificates issued before 01. May 2010 it is required to display the Solar Keymark licence number together with the Solar Keymark logo (in case the logo is displayed) from 01. May 2011 onwards on the collectors.

This decision was taken with one negative vote.

The discussion related to this topic showed that there is need of a similar requirement related to systems. However, since systems can be composed of different collector types and store types practical problems occur related to the question of the location of the licence number together with the logo. Since at present there are not that many systems, it was agreed to postpone a more deep discussion of this point.

There was a consensus related to requirement to avoid the use of the Solar Keymark logo in such a way that the customer is misled (e.g. displaying the logo on a page of a brochure with several products not Solar Keymark certified).

Decision D8.M8 – No Solar Keymark for uncovered collectors

Uncovered solar collectors shall not be excluded from Solar Keymark certification.

This decision was taken with one negative vote.

The request for excluding uncovered solar collectors from Solar Keymark certification is mainly based on the fact that in some countries Solar Keymarked products (including uncovered absorbers operated in combination with a heat pump) can benefit from subsidies. There was a consensus that subsidy schemes should also take into account the electrical energy consumption of a solar thermal systems.

A working group was established in order to elaborate mechanisms for avoiding the misuse of Solar Keymark certification for non solar products.

Members of the **working** group are:

Costas Travasaros, Jean Marc Suter, Rob Meesters, Carsten Lampe, Christian Stadler, Fabienne Salaberry

Note: It was not possible to identify a leader of the working group

The working group shall prepare a proposal as a basis for a decision at the next meeting.

Decision D9.M8 – Procedure for physical inspection / surveillance

The participants present decided to proceed with the physical inspection and surveillance test as it is already present common practice. This means a physical inspection as described in the Solar Keymark scheme rules every second year.

The latest version of documents N0122R0 (Checks and controls for solar collectors) and N0123R0 (Checks and controls made of the solar heating system) shall be used for the inspection reports.

This decision was taken with one negative vote.

Decision D10.M8 – Factory inspection report

The participants present decided that the document N0132R0 (factory inspection report) shall be used for reporting.

This decision was taken with one negative vote.

Decision D11.M8 – Harmonised requirements for documentation provided by collector manufacturer for factory inspection

The participants present decided that the documentation required in Annex A of N0120R0 (extended by information related to method for connecting the absorber plate and the piping e.g. laser welding, soldering) has to be provided by the solar collector manufacturer in the context of a factory inspection.

This document will be included as Annex A3 in a revised version of the Solar Keymark scheme rules.

This decision was taken unanimously.

Note: The requirements resulting from Annex B of N0120R0 (Collector label) are already required by EN 12975-1:2006, section 7.2 (labelling)

With regard to N0120R0 Annex C (installer instruction manual) there was a consensus that the installer instruction manual has to be checked with regard to the aspects listed in the standard EN 12975-1:2006; section 7.3 and N0120R0 respectively.

Decision D12.M8 – Annual inspection requirements in case of ISO 9001 certification

In case the manufacturer is ISO 9001 certified by a certifier accredited by a national accreditation body being a member of IAF (International Accreditation Forum) (www.iaf.nu) a Solar Keymark factory inspection is only required every second year provided the ISO 9001 report is made available to the certifier.

Based on conclusions of previous audits, interim inspections can be requested by the certifier.

This decision was taken with two negative votes.

Decision D13.M8 – Remote Random Sampling procedure.

The participants present decided that a remote sampling procedure as described in N0126R1 and N0127R0 can be performed for picking samples for Solar Keymark type testing.

This decision was taken unanimously.

Decision D1.M7 – Solar Keymark Network Internal Regulations; Version September 3rd, 2009

The participants present agreed with the version of the “Solar Keymark Network Internal Regulations” as discussed at the meeting (Document N01002R3 (File SKN_N0102R3.doc).

This decision was taken unanimously.

With regard to the procedure of the future meetings it was agreed that there is a need of the establishment of a formal voting and nomination procedure.

Jan Erik Nielsen will prepare tools (based on Excel) for that purpose.

Decision D2.M7 –CEN fees

The participants present decided to send the document N0104R0 related to “ CEN fees from Solar Keymark” to CEN and asks for acceptance until the end of 2009.

In case the proposal described in the document is not accepted or an appropriate other proposal is presented by CEN the initiation of a new certification scheme will be considered.

This decision was taken with one abstention.

Decision D3.M7 – Fees for the SKN and Secretariat in 2009 & 2010

The participants present decided that the budget of the SKN (including chairman) for 2010 is in total 47.694 €.

Furthermore it was agreed that the budget for 2009 of 40.000 € for the SKN (including chairman) is increased by 4.800 €.

In 2010 the SKN fee is reduced to a value of 50 € per licence.

In case the income based on the SKN fees will not be as high as expected the resulting difference will be compensated in the year after.

This decision was taken unanimously.

Decision D4.M7 – Solar Keymark Database: Update procedure and brand

The participants present decided the following:

As soon as a licence is issued the certification body shall send by e-mail the related data sheet in a harmonised Excel format and PDF format to the Solar Keymark Network Secretary (Email: jen@solarkey.dk)

Brands mentioned on the Solar Keymark certificate will be included in the database as part of the licensee name: LICENSEE NAME (BRAND)

A brand is the name of the product as given by the licensee. In principle it might be possible to have different brands for the same product (e.g. for different markets).

It was agreed that the update procedure will be included in the specific scheme rules.

This decision was taken unanimously.

Decision D5.M7 – 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 and without electricity production. For the electrical load applied for the electricity production a MPP Tracker shall be used.

In the Solar Keymark data sheet the thermal performance with and without electricity production shall be presented (see note below).

This decision was taken with one abstention.

Decision D6.M7 – Changing a collector in a Solar Keymark certified system

The participants present decided that a collector in a Solar Keymark certified system can be changed under the following conditions:

The original test report of the tested system configuration remains the reference for all kinds of modifications, even if a modification was accepted without retest. The procedure for an advice of amendment follows the four topics:

1. The manufacturer informs the Certification Body about the planned change of collector type.
2. The manufacturer delivers the test reports and Solar Keymark data sheets of both collectors and the system to the Certification Body.
3. Both the Certification Body and the test lab which has issued the system test report have to approve the system modification.
4. A negative decision can also be based on technical consideration out of the following few requirements.

Minimum requirements on the collector:

- The alternative collector is Solar Keymark certified.
- The original collector must be performance tested according to EN 12975
- The test reports of both collectors and the system are available to the Certification Body

- The change of the collector does not cause a change of the system configuration e.g. piping, inlet connections, controller, pump etc.
- Both collectors have to be “technical identical”

Definition of “technical identical” Collector” (Data based on test report)

- Tolerance of gross area $\pm 10 \%$
- IAM (50°) $\pm 3 \%$
- The pressure drop shall not differ by more than $\pm 10 \%$ for the nominal flow rate as stated by the manufacture
- Total performance of the collector at 1000 W/m^2 :
 - Integral from 0 to $100 \text{ }^\circ\text{C}$, tolerance of 0 to 10% (new collector being better than original)
 - $W_{\text{peak}} \pm 10 \%$, (Peak Power [$G = 1000 \text{ W/m}^2$] per collector unit)

No modifications allowed at:

- Hydraulic flow type
- Maximal operating pressure
- Permitted heat transfer fluid

Reporting

The original test report of the tested system remains the reference for all kinds of modifications – cascading modifications are excluded. The original test report remains unchanged and valid. The use of alternative collectors is briefly reported as an addendum to the original test report.

This decision was taken unanimously.

Decision D7.M7 – Procedure for considering glass as equivalent for flat plate collectors

The participants present decided that glazing can be considered as equivalent if the following requirements are fulfilled:

- The solar transmission (AM 1,5) does not differ by more than $\pm 1\%$ from the one of the glass used for the initial Solar Keymark collector test, provided that material (including tempered/non tempered), texture, surface treatment and thickness of the glass did not change. The change in transmission must be documented with a transmission measurement made by one of the Solar Keymark test labs or by labs accredited for transmission measurements.

and

- If the glass is toughened, no additional mechanical load test is required. For other materials, a collector must be sampled according to the rules of Solar Keymark. This collector has to pass the mechanical load test according to EN 12975-2 chapter 5.8 made by one of the Solar Keymark test labs.

and

- The impact resistance test according EN12975-2, chapter 5.9 has been passed successfully with at least the same result as in the initial test (only if the impact resistance test was performed during the initial test). The tests must be carried out by a Solar Keymark test lab.

This decision was taken with one negative vote.

Decision D8.M7 – Solar Keymark scheme rules, Version September 4th, 2009”

The participants present agreed in principle with the documents for the “ Solar Keymark scheme rules” (Document SKN_N0106.R1.doc) and the annexes C (Document SKN_N0106.R1annexC) and annexes D (Document SKN_N0106.R1annexD) as resulting from today’s discussion.

The detailed description of the extrapolation methods for the certification of system families will be finalised in the corresponding working groups before September 15th, 2009.

The final version of the scheme rules resulting from these activities will be submitted to CCB for approval and will be made available via internally via www.solarkeymark.org.

This decision was taken unanimously.

Decision D9.M7 – Validity of Solar Keymark certificates in case of Tinox energy CU coating

The participants present decided that in context with decision D1.M5 coatings on copper absorbers with the following brand names are considered as equivalent:

Tinox energy CU, Tinox classic, Blutec etaplus CU, Sunselect

Note: This decision extends decision D1.M5 and decision D5.M6 (Validity of Solar Keymark certificates in case of absorbers selective coated by different manufacturers)

This decision was taken unanimously.

With regard to Tinox AL coating presented in document N0115R0 (SKN_N0115R0.pdf) related to a “ Qualification Test of Solar Absorber Coating Durability” no decision was made because no test report related to durability testing according to decision D1.M5 was available.

Decision D10.M7 – Mandatory identification of the manufacture

The participants present decided that for collectors, as the name of the manufacturer, also the name of the supplier of the collector can be mentioned.

Furthermore, the discrepancy in the information required related to the manufacture’s name in EN 12975 and EN 12976 should be removed during the ongoing revision of EN 12975.

This decision was taken unanimously.

Decision D11.M7 – Translation of Solar Keymark documents

The participants present decided that certification bodies or test institutes can translate documents such as e.g. factory inspection reports or data sheets in other languages provided that always the original English text remain in the document.

This means that the preparation of a document using any language and English is possible.

In case of doubts, contradictions etc. the English text is the relevant one.

This decision was taken unanimously.

Note: (Practical comment by the Secretary) In present version of the Solar Keymark collector data sheet there is no room for two values for the thermal performance parameters. Until further notice the two sets of values for a PV/T collector are given in the following way:

- Values for PV/T collector **without** electricity production: To be given in the normal way in the data sheet.
- Values for PV/T collector **with** electricity production: To be given with the following explanation in the comments field of the data sheet in the following way: *The thermal performance of the collector is reduced if electricity is produced simultaneously. A test was performed with simultaneous electricity production; results from this test show the following performance parameters: n0a: d.ddd; a1a: d.ddd w/(m²k); a2a: d.ddd w/(m²k²); tstg: ddd °c.*

Decision D5.M6 – Validity of Solar Keymark certificates in case of absorbers selective coated by different manufacturers are used

The participants present decided that in context with decision D1.M5 **coatings on aluminium absorbers** with the following brand names are already considered as equivalent:

Alanod Mirotherm and Blutec eta plus_al

Note: This decision extends decision D1.M5 (Validity of Solar Keymark certificates in case of absorbers selective coated by different manufacturers are used was modified)

Additionally it was decided that in the future documentation for considering selective coatings and other materials as equivalent shall be provided in advance to the SKN.

This decision was taken unanimously (at the 6th Meeting, March 23rd & 24th, 2009).

Decision D4.M6 – Definition of “series production” and “stock”

The participants present decided that a series production is existing when a least 10 collectors are produced with the same materials and the same manufacturing technologies in the same way and all major production processes are performed in presence of the inspector.

The participants present decided that at least 10 collectors of the same type more than the number of test samples picked must be available in the stock for picking the sample(s) to be tested.

This decision was taken unanimously (at the 6th Meeting, March 23rd & 24th, 2009).

Decision D3.M6 – Handling of complains

The participants present decided that the procedure for handling of complains is as described in the general Keymark scheme rules (Internal Regulations, Part 4, Certification, 2006-8) in section 5.4 (complains) and 5.5. (appeal procedures).

If a special test is performed according to the procedures mentioned above and if the result is not fulfilling the requirements mentioned in chapter 6.1 of the Solar Keymark scheme rules the manufacturer has to carry the costs of the special test.

If the specially tested product fulfils the requirements and complies with the registered values, the costs have to be carried by the party which questioned the fulfilment of the requirements or registered values and ordered the test through the certification body.

Chapter 6.1 of the Solar Keymark scheme rules will be revised accordingly by Jan Erik Nielsen.

This decision was taken unanimously (at the 6th Meeting, March 23rd & 24th, 2009).

Decision D2.M6 – Durability and reliability testing of custom build collectors

The participants present decided that durability and reliability tests shall be carried out on collectors representing the major features of the collector family. E.g. collector families with collectors having more than one glass covers that are separated by bars.

In case the largest size of the collector the test laboratory can test is smaller than the smallest size of the family representing the weakest point an other testing laboratory shall carry out the respective tests.

This decision was taken unanimously (at the 6th Meeting, March 23rd & 24th, 2009).

Decision D1.M6 – Voting on “Solar Keymark Network Internal Regulations; Version March 23rd, 2009”

The participants present decided to send out the modified version of the “Solar Keymark Network Internal Regulations” as discussed at the meeting for voting. For that purpose a “voting form” will be send out together with the document by the SKN secretariat.

In case the document is not approved as send out this has to be declared to the Solar Keymark Network (including Secretariat) within 30 days after sending out the document.

Comments submitted in the context of the voting shall be presented and discussed at the next SKN meeting.

This decision was taken unanimously (at the 6th Meeting, March 23rd & 24th, 2009).

Decision D3.M5 – Issuing of OEM certificates

The present experts decided that OEM certificates shall be issued by the certifier who issued the original certificate.

This decision was taken with three negative and 12 positive votes (at the 5th Meeting, October 1st & 2nd, 2008).

Decision D2.M5 – Difference between nominal and effective store volume

The experts present decided that the difference between the nominal store volume stated on the system identification label shall not differ by more than 10 % from the effective store volume determined from the measured thermal capacity. The calculation of the percentage of the difference between the two volumes is based on the value of the effective volume.

The effective store volume shall be mentioned in the test report.

This decision was taken unanimously (at the 5th Meeting, October 1st & 2nd, 2008).

Decision D1.M5 – Validity of Solar Keymark certificates in case of absorbers selective coated by different manufacturers are used

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

- the absorptance and emittance of the different coatings under question was measured by the same recognised lab and
- the durability and reliability tests according to EN 12975-2 (being relevant with regard to the absorber) of the same collector with an absorber with different coatings performed by an accredited test lab are successfully passed and
- the power curves determined by an accredited test lab for the same collector with an absorber with different coatings do not differ by more than 2% at a reduced temperature difference of 0 K and not more than 2% at a reduced temperature difference of 50 K and
- the equality is accepted by the Solar Keymark Network

Coatings on copper absorbers with the following brand names are already considered as equivalent:

Tinox classic, Blutec etaplus CU, Sunselect

This decision was taken unanimously (at the 5th Meeting, October 1st & 2nd, 2008).

Decisions Dx.M4: Note: At the 4th Meeting, June 10th, 2008 no decisions were made.

Decision D6.M3 – related to “ Mechanical load tests of tubular collectors ”

The experts present decided that the “negative pressure test of the collector” according to 5.9.2 EN 12975-2:2006 does not have to be performed on tubular collectors due to the following reason:

The negative pressure test is intended to assess the extent to which the fixings between the collector cover and collector box are able to resist uplift forces caused by the wind. This is not relevant for tubular collectors.

Concerning the mechanical load tests of tubular collectors with and without external reflectors it was decided that action must be taken during the next revision of EN 12975.

It was decided that there shall be a remark on the Solar Keymark certificate in case the negative pressure test was not performed as long as the pressure test is still mandatory according to the standard.

In order to exchange the experience related to performing the positive pressure tests it was agreed that the labs performing such tests should describe their procedure and mail it to the Solar Keymark Network until November 9th, 2007.

This decision was taken unanimously (at the 3rd Meeting, October 2nd, 2007).

Decision D5.M3 – related to “ Solar Keymark certification of ICS Systems ”

Taking the aspects mentioned above into account the experts present decided that a Solar Keymark certification of ICS systems is possible.

This decision was taken unanimously (at the 3rd Meeting, October 2nd, 2007).

Decision D4.M3 – related to “ Performing of Solar Keymark tests by manufacturers ”

The experts present decided that this is not possible due to the existing Solar Keymark scheme rules.

Remark: It would only be possible if the test facility of the manufacturer is accredited. Furthermore the test sample has to be picked from the current production by an independent inspector.

This decision was taken unanimously (at the 3rd Meeting, October 2nd, 2007).

Decision D3.M3 – related to “made in”

The experts present decided that the information related to “made in” can refer to whatever is considered as appropriate by the one who is putting on the label.

Furthermore it was decided that the information to “made in” on the product identification plate should be made optional during the next revision of the standard.

This decision was taken unanimously (at the 3rd Meeting, October 2nd, 2007).

Decision D2.M3 – related to “ Flexible Solar Keymark certification ”

The experts present decided that in principle both approaches (“extrapolation/interpolation method” and “calculation method” – see above) should be included in a revised version of the Solar Keymark scheme rules.

This decision was taken unanimously (at the 3rd Meeting, October 2nd, 2007).

Decision D1.M3 – related to “Procedures for changing the certification body ”

The experts present agreed on the following:

- It shall be possible for a licensee to obtain a new license from another certification body without re-testing and re-inspection
- Old license shall be withdrawn when new one is issued
- Change of license should be done within 3 months after the request
- The test report(s) and the inspection report(s) have to be provided to the “new” certifier
- The test institute that issued the test reports has to be accepted by the “new” certifier

This decision was taken unanimously (at the 3rd Meeting, October 2nd, 2007).

Decision D2.M2 – related to the question who is manufacturer and where is the location for picking of test samples

The experts present decided that it is not possible to give a precise answer on this question.

Furthermore it was decided that Josef Buchinger should send the case under question out to the Solar Keymark Network and ask for the individual opinions of the experts.

(Decided at the 2nd Meeting, February 15th, 2007)

Decision D1.M2 – related to simplification of the rules for testing collectors of same type but different sizes

The experts present decided that the current procedure should not be changed. This means that the smallest and the largest collector out of a series with the same type should be tested.

This decision was taken with one negative vote (at the 2nd Meeting, February 15th, 2007)

Decision D3.M1 – related to collector power curve / collector efficiency curve

In the revised version of the test standard for collectors (EN 12975) the collector performance is presented by means of a collector power curve.

In this context it was decided by the experts present to recommend that for collector performance tests that are carried out according to the revised version of the collector test standard EN 12975 the collector efficiency curve shall not be included in the test report (not even in an Annex).

This decision was taken unanimously (at the 1st Meeting, June 21st, 2006)

Decision D2.M1 – related to new accreditation certificates

It was decided that in case a test lab gets a new accreditation certificate, this certificate should be electronically send to jen@solarkey.org

This decision was taken unanimously (at the 1st Meeting, June 21st, 2006)

Decision D1.M1 – related to test results based on old / new (revised) standards

The experts present are confident that test results (thermal performance and durability) to be obtained on the basis of the new version of EN 12975 and EN 12976 will not differ from results that would have been obtained on the basis of the old version, as the methodology and the test equipment are the same.

This decision was taken unanimously (at the 1st Meeting, June 21st, 2006)

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