Interim Report
October 2001

Solar Keymark

Network co-operation about implementing the EN Standards and Establishing the CEN/CENELEC Keymark for Solar Thermal Products

European Solar Industry Federation (ESIF)
Proposal no: AL/2000/144

PRIORITY AREA:
STU
(Development and dissemination of standards and certification)

Jan Erik Nielsen, Tuesday, 17th October, 2001

Project Proposal Summary

Aim of the project

The aim of the project is to open the European market for producers and dealers of solar thermal products by implementing the new EN standards and establishing a certification mark (KEYMARK) for solar thermal products. This "SOLAR KEYMARK" shall ensure compliance with the upcoming European standards for solar thermal products: EN12975, EN12976 and ENV 12977. To the consumers the Keymark act as a common EU quality certificate for solar thermal systems and components. The Keymark shall replace all the different national/regional "certifications" existing now.

Expected results

The direct results of the project will be:

- **International co-operation about implementing the EN tests for solar thermal products. A large group of the main national European solar test institutes will be accredited to perform the tests according to the EN standards**
- **The SOLAR KEYMARK. This certification mark referring to conformity with the EN standards will be used as a quality label for solar thermal products**
- **A solar thermal product will need one test only according to the EN standards – this test will be valid for whole Europe**

And the most important indirect results

- **Open market for solar thermal products**
- **Increased sale**
- **Lower price**
- **Improved quality**
- **Enhanced user confidence**

Dissemination potential

The European Solar Industry Federation, representing approx. 300 European solar industries, together with 10 leading national solar test institutes propose this Solar Keymark project. They commit themselves to use their major influence to make the Solar Keymark valid through out all of Europe, replacing all the different national/regional "certifications" existing now. So do the associated partners: Active Solar Thermal Group, representing directly 18 European solar thermal industries and the test institute Testzentrum Saarbrücken.

Financial details	Euro
Total project cost	600,500
Eligible cost (for European Commission support)	600,500
Support requested from the EC	300,000
Support requested from or granted by any other public body (please specify)	0
Expected income (participation fees, sales,etc ...)	0
Financial contribution of the proposer(s)	300,500

Contents

Kick off meeting

The first project meeting was held in Brussels 8/6, 2001. Main outcome of the meeting (and the follow up) was:

- General information about the CEN/CENELEC Keymark was presented
- Project management. Task leaders for WP2 and 3 were pointed out. Task leader ship of WP2 was organised as a co-operation between Andreas Constantinides from ESIF, Teun Bokhoven from Astig and Jan Erik Nielsen, DTI. Task leader ship of WP 3 was given to Jan Erik Nielsen, DTI and it was stressed that very closed co-operation between this WP and the Sun in Action II project (included in the same project cluster) must be done.
- WP1 Network of test institutes. Status and time schedule was established for subtasks a, b and c - see Annex 1
- WP2. Mark Scheme development. Work plan was discussed and after the meeting it was reported – see Annex 2
- WP3. Dissemination. A list of already presented papers was given – see Annex 3 and so was an outline of a homepage. After this meeting Jan Erik Nielsen participated in the Sun in Action II meeting and it was decided that he together with Gerhard Stryi-Hipp from Deutcher Fachverband Solarenergie should create a proposal for co-ordinated homepages for the two projects – see Annex 4. So far ESIF did not decide on the proposal. The address www.solarkeymark.com has been reserved for the project.

Proposal to CEN for creation of a "Solar Keymark"

After the meeting Jan Erik Nielsen officially on behalf of the European industry and this project proposed to CEN to establish a Solar Keymark – see Annex 4. After some communication with Gaston Michaud and Pierre Croon from CEN (it showed up that the Keymark and the way to establish it has changed a lot since the proposal of this project) a meeting was arranged between CEN and Jan Erik Nielsen.

Meeting with CEN

Jan Erik Nielsen had August 17th a meeting in Brussels with CEN represented by Gaston Michaud (associated partner in the project and Pierre Croon. Major changes in the Keymark structure has been made since the proposal of this project:

- The Keymark is now to be used in conjunction with the marks of existing national certification systems demonstrating conformity with European standards.
- The procedure how to establish a new Keymark has changed significantly – to a less formal a less time consuming procedure – Annex 5 gives a short report from the meeting and a revised description of the Keymark. The creation of a (by CEN approved) official Scheme Development Group is no longer a requirement (but in most cases a working group is necessary)

At this meeting Jan Erik Nielsen was invited to participate in the CEN – CCB (Central Certification Board) meeting next month to present the proposal for a Solar Keymark. At this very same meeting the changes in the Keymark procedures was to be approved.

Participation in CEN – CCB meeting

Jan Erik Nielsen presented at this meeting September 11th the wish from the solar thermal industry to have the possibility to Keymark their products. The proposal for a Solar Keymark was approved and it was decided to create a working group on this item. First

task of the Solar Keymark Working Group was to define the scope of their work (the scope of such a Keymark Working Group is no longer predefined after the changes in procedures).

WP2 meets CEN

Already next day the co-ordinators of WP2: Teun Bokhoven, Astig, Andreas Constantinides, ESIF and Jan Erik Nielsen met with Gaston Michaud and Pierre Croon from CEN to put together the scope of the working group, the result is seen in Annex 6. The general idea of this scope was to take over the general requirements of the Keymark and add on as few as possible things special for the solar thermal case. This was forwarded to the CCB members, and one response came up from AFNOR – see Annex 7 – a request to minimise the specific requirements.

Specific requirements

In the mean time a very first outline of specific requirements for solar thermal products was produced by Jan Erik Nielsen. It was made by taking the requirements from another product and then simply make a very rough "translation" to solar thermal products – just to get an idea of the format/content and to have a basis to work on – see Annex 8. Major changes must be expected.

Milestones reached

WP1

- Kick off meeting held in June 2001. Meeting report - see Annex 1.
- Second meeting planned to October 2001

Comments: Following time schedule (maybe a bit ahead)

WP2

- Project proposal for a Keymark Scheme delivered – See Annex 4
- Project proposal for a Keymark Scheme approved - Phase one completed
- Working group created (WP2 participants)
- Very first and rough draft of specific rules prepared – see Annex 8
- Inquiry not necessary (due to new Keymark procedures) – se Annex 5

Comments: Following time schedule (maybe a bit ahead)

WP3

- Updated project information twice a year – this document
- Papers – see Annex 3

Comments: Following time schedule (maybe a bit ahead)

Annex 1. Status for WP1

Keymark – kick off meeting

Notes concerning EN12975 Solar Collectors

Brussels 2000-06-08, Renewable Energy House, Rue Du Trone 26

- All 11 laboratories are planning to be accredited for the EN12975 standard before the end of 2002 and 5 already in 2001.
- However, some of the laboratories will exclude some parts of the Standard. To able to label with the solar Keymark all tests stated in En12975-1 (Page 5) must be fulfilled. This might mean that some laboratories will not be able to label the solar Keymark on some collectors because they can only offer part of the tests. The other part must be made at another laboratory.
  Some laboratories will be accredited for both the steady state test and the quasi-dynamic test while some will only use one of them. Some will do the indoor and some the outdoor steady state test.

  To clarify which tests each laboratory will do and which laboratories that will be accredited to labeling solar collectors with the Keymark it was decided that AAW, by email, will collect this information.
- There were not so many comments or lessons learned from using the standards yet since most of the laboratories just have started the implementation. However, some problems and suggestions there addressed for the network of test institutes to cooperate in, within the project, i.e.
  - Rain test problems
  - Round Robin on thermal performance
  - Methods for calculating measurement uncertainty
  - Evaluation tool for the QDT-test
  - Etc.

  To deal with this cooperation-need it was decided that AAW will by email collect information on which particular interest each laboratory has, and if there are more problems with the standard that should be addressed. With the collected information AAW will prepare a discussion meeting between the representative from the laboratories, in connection with the next Solar Keymark meeting in November. AAW will also consider if different work groups can be created to work more concentrated on specific subjects that are of interest of the participants.
- It was also discussed on how "chat"-information of the standards can be distributed between the laboratories between the meetings. Since it is quiet few participants in the network a web-page would not be needed, and the information distribution could be solved with e-mailing coordinated by AAW.
- All laboratories seem to have a working quality assurance system, and nobody expected any problems with the actual accreditation procedure, that needed to be addressed in the network.
- AAW will on the coming network meeting collect experiences with the standards and if needed write operational procedures for help of difficult testing. If the problem will not be solved AAW will write a recommendation for revision of the standard.

NOTES taken by Åsa Wahlström

Laboratory	Date of implementation	Date of accreditation	SS	QDT
Arsenal (Austria)	2001-12-31	2002-03-01	x	x
CSTB (France)	2001-12-31	2002-06-01		
Demokritos (Greece)	2001-06-30	2001-09-01	x	
DTI (Denmark)	2001-12-31	2001-12-31	x	
ENEA (Italy)	2001-12-31	2002-03-30		
INETI (Portugal)	2002-03-31	2002-09-01	x	
ITW (Germany)	2001-12-31	2002-03-01	x	x
IZES (Germany)	2001-05-01	2001-09-01	x	
SP (Sweden)	2001-12-31	2001-12-31	x	x
SPF (Switzerland)				
TNO (The Netherlands)	2001-12-31	2001-12-31		

Keymark – Kick-Off Meeting

Notes concerning EN 12976 Factory Made Systems

Brussels 2000-06-08, Renewable Energy House, Rue Du Trone 26, 8th of June, 2001

7 laboratories are planning to implement (parts of the) EN 12976 standards before the end of 2002 and accreditation in the course of 2001 to 2003 (see table underneath).
5 laboratories will implement the full packet of 12976 system tests, 2 laboratories will only implement energy performance test.
Only a few comments and lessons learned from using the standards were given at this kick-off meeting, as most of the laboratories have just started the implementation. However, some problems and suggestions were addressed:

- Some wrong references and other editorial issues
- Implementation of SMT "Bridging Gap" results
- Round Robin for some test types
- Conformity procedure for slightly changed products (e.g. extrapolation of th. performance)
- Development of standard "virtual" system for test quality check (DST or CSTG)
- Methods for calculating measurement uncertainty
- Etc.

These items will be discussed in more detail at the next meeting in November, more detailed experience with standards will be listed. Amelie Veenstra will collect more experiences/plans with implementations and comments to the standards just before next meeting.

Status and comments implementation **EN 12976-2 "factory made systems"**				
Laboratory	**Deadline for implementation**	**Deadline for accreditation**	**Tests to be implemented:** **A. Quality tests** **B. Th. performance**	**Comments**
Demokritos (Greece)	2002-05-30	2002-09-02	A. All B. CSTG (CSTG accr. ready)	Reference to non valid standards
ENEA (Italy)	2001-09-30	2001-12-30	A. All B. ?	
CSTB (France)	2001-12-30	2002-06-30	A. None B. DST	
INETI (Portugal)	2002-03-31	2002-09-30	A. All B. DST and CSTG (DST and CSTG acc. ready)	
ITW (Germany)	2002-12-30	2003-12-30	A. None B. DST	
IZES (Germany)	2002-12-30	2002-12-30	A. All B. ?	
TNO (Netherlands)	2001-12-30	2001-12-30	A. All B. DST (DST acc. ready)	- Results bridging gap - Conformity of slightly changed products

Keymark – Kick-Off Meeting

Notes concerning ENV12977 Custom Built Systems

Brussels 2000-06-08, Renewable Energy House, Rue Du Trone 26, 8th of June, 2001

7 laboratories are planning to implement (some) of the ENV12977 standards before the end of 2002. 6 are planning to have accreditation for (some) of the ENV12977 standards before the end of 2002
Some of the laboratories will exclude some parts of the standards. To be able to label custom built systems with the Solar Keymark all requirements and tests stated in ENV12977-1 must be fulfilled. Some labs may only wish to label the components (store and controller).
JEN is by email collecting information from the participants to clarify which of the storage test procedures each laboratory will do.

Only a few comments and lessons learned from using the standards were given at this kick-offff meeting, as most of the laboratories have just started the implementation. However, some problems and suggestions were addressed:

- Problem of two store test procedures
- Time consuming store test procedures
- Round Robin on thermal performance of stores
- Methods for calculating measurement uncertainty
- Etc.

These items will be discussed in more detail at the next meeting in November.

All participating laboratories seem to have a working quality assurance system, and nobody expected any problems with the actual accreditation procedure, that needed to be addressed in the network.

JEN will collect more experiences with and comments to the standards just before next meeting.

NOTES taken by Jan Erik Nielsen

Enclosed:

- Page 2: Tables for participating labs in ENV 12977-2&3
- Page 3: Comments – so far – on the standards

Comments so far to the standards**ENV 12977-2: System Test**			
Laboratory	**Deadline for implementation**	**Deadline for accreditation**	**Comments**
Arsenal (Austria)	2002-12-01	2002-12-31	
Demokritos (Greece)	2002-05-30	2002-09-02	
DTI (Denmark)	2001-12-31	2001-12-31	Only component tests
ENEA (Italy)	2001-12-31	2002-03-30	
ITW (Germany)	2001-12-31	2002-03-30	
IZES (Germany)	?	?	
SP (Sweden)	2002-12-31	2002-12-31	

ENV 12977-3: Storage Performance Test						
Laboratory	**Deadline for implementation**	**Deadline for accreditation**	**Comments**	**Test 6.3.1 Analytical**	**Test 6.3.2 Par. ident.**	**Test 7 In system test**
Arsenal (Austria)	2002-12-01	2002-12-31				
Demokritos (Greece)	2002-05-30	2002-09-02				
DTI (Denmark)	2001-12-31	2001-12-31	UA determination time consuming	X		
ENEA (Italy)	2001-12-31	2002-03-30				
ITW (Germany)	2001-12-31	2002-03-31	good experience with parameter identification method	X (only heat loss rate and capacity)	X	X
IZES (Germany)	?	?				
SP (Sweden)	2002-12-31	2002-12-31	Testing and evaluation is time consuming			X

Laboratory	Comments to ENV 12977-3: Storage Performance
Arsenal (Austria)	
Demokritos (Greece)	
DTI (Denmark)	p10: 0,05 ->0,1 K p14: 0,02->0,05 K p22: Other UA-method / fewer T-points Maybe only one heat loss coefficient necessary
ENEA (Italy)	
ITW (Germany)	- good experience with parameter identification method - no experience with determination of the heat transfer capacity rate of immersed heat exchangers according to 6.3.1.1.3 and. 6.3.1.2.6 resp.
IZES (Germany)	
SP (Sweden)	

Annex 2. WP2. Mark Scheme Development

Solar Keymark - WP2: Workplan

Jan Erik Nielsen, DTI/SECD, Thursday, 05 July 2001

WP 2.1. Project proposal for a CEN/CENELEC European Mark Scheme

First step in establishing the Solar Keymark is to propose to CEN a project for an European Mark Scheme for solar thermal products. It is very important to initiate this proposal as soon as possible to get the acceptance from CEN to go on with the project in due time to meet the deadline of the Altener project of 31/3 2003. That's why DTI/SECD immediately after the kick-off meeting established contact with:

- Gaston Michaud (CEN Central Secretariat, Director Corporate and Legal Affairs) and
- Pierre Croon (past General Director of the Belgian Institute for Standardisation (IBN) and also the past Chairman of the Belgian Board for accreditation for certification bodies for products - for the time being appointed to give advice to CEN in certification matters)

and in co-operation with these highly qualified persons, DTI/SECD has already worked out a project proposal. It turned out that a very simple application was sufficient: See Annex 1.

This proposal will be treated at the next meeting of the CEN Certification Board 11th of September.

Further on DTI/SECD has been invited to a meeting in Brussels with Mr. Michaud and Mr. Croon in August for a detailed discussion the further procedures in details.

The role of the participants at this stage is to prepare their national members of CEN to express their interest in the Solar Keymark to insure that CCB will accept the proposal. DTI/SECD will remind and if necessary help the participants in this matter.

WP 2.2. Scheme Development Group

When the proposal is accepted a Scheme Development Group (SDG) of experts is created by the CEN Certification Board (CCB) - also the CCB appoint the convenor and agrees on the allocation of a secretariat for the group. Based on the decisions made at the "Keymark Kick-off Meeting" the participants in the Altener Solar Keymark project will propose to CCB an industrial representative to be appointed as convenor and DTI/SECD to be allocated as a secretary to the group while the project is running. As experts in the group the participants specified in the Altener Solar Keymark will be proposed.

WP 2.3. Mark Scheme Rules

The Mark Scheme Rules will be based on the general CEN rules: "CEN/CENELEC: Internal Regulations – Part 4: Certification".

The role of the DTI/SECD as a secretary is to draft the scheme rules, incorporate comments from the SDG and together with the CEN contact persons to insure that the specific solar scheme rules follow the requirements already given in the general CEN rules - DTI/SECD will act as the link between the project and CCB. DTI/SECD will also arrange meetings and give out frequently information about the progress to the participants. (Also DTI/SECD as a part of the WP3 will establish the Solar Keymark Web Site).

The responsibility of the convenor is to represent and guarantee the interests of the industry by following the drafting process very closely and giving inputs to it based on the view points of the industrial associations.

The role of the participants is to give inputs and comments to the drafted scheme rules taking into consideration their experience with already existing national certification schemes. When the final version of the solar mark scheme rules are sent out for formal vote, they should again

give their national CEN member bodies good reason for accepting the rules. DTI/SECD will remind and if necessary help the participants in this matter.

WP 2 – revised organisation and sub-budgets

WP2 is reorganised a bit compared to the original project description in order to be compatible to the requested CEN structure (see Annex 2) and to follow the decision made at the kick-off meeting. The task leader responsibilities will be dealt with as follows:

Task leader - Co-ordination of task -> Steering Committee and SDG convenor
Representatives of the two solar industry associations (Astig and EBHE has expressed their interest) forms a "Steering Committee" and acts together as co-ordinator of the WP2. One has to be the formal convenor of the "Scheme Development Group" (SDG), but they should have very close co-operation and must come to agreement in all essential matters. Revised budget for co-ordination of task WP2: 10 kEuro (increased from 5kEuro in project description).

Task leader – Drafting Mark Scheme -> Intermediate SDG Secretary
DTI/SECD acts as the secretary of the "steering committee" and the "Scheme Development Group". Revised budget for drafting the mark scheme: 20 kEuro (decreased from 25kEuro in project description).

Annex 3. International papers given on Solar Keymark

Already presented:

- "The Solar Keymark", Eurosun, Copenhagen, Denmark, June 2000
- "Status of the Solar Keymark", Northsun, Leiden, The Netherlands, May 2001
- "Solar Keymark – The new European Scheme for quality labelling of solar thermal products", OPET – Colloquium: "Fostering quality of matirials and installations in the marketplace", Brussels, Belgium, March, 2001

Accepted for presentation:

- "Implementing the EN Standards and Establishing the CEN/CENELEC Keymark for Solar Thermal Products", Workshop on Innovation and Quality in Solar Thermal Applications", INETI, Lisbon, Portugal, November 2001
- "CEN Certification of Solar Thermal Products: The Solar Keymark", ISES Solar World Conference, Adelaide, Australia, November 2001

Annex 4. WEB SITE

ESIF Web Sites - A sub-project proposal

Jan Erik Nielsen (JEN), DTI, jan.erik.nielsen@teknologisk.dk
Gerhard Stryi-Hipp (GSH), DFS, stryi-hipp@dfs.solarfirmen.de

1. Background

At the ESIF mid-year meeting in Brussels 9th of June, it was decided to work out a proposal for the ESIF homepages:

- General ESIF Web Site
- Sun in Action II Web Site
- Solar Keymark Web Site

It was decided to finance the work at all Web Sites from the two projects: Solar Keymark and Sun in Action II. From the Keymark project the budget has to be taken out of the "WP3: Dissemination …" budget for "label design and campaign", which is 15 kEuro and from the Sun in Action II project it must be taken out of the "Phase 4: Dissemination …" budget of 50 kEuro (included in this is also creation of a CD-Rom, but it was decided to focus on the Web Site work).

Further more it was decided to include updating of the ESIF and the Sun in Action Web Site in the budgets for future ESIF projects.

2. Integrated General ESIF Web Site / Sun in Action II Web Site

For the general ESIF Web Site it is proposed to utilise work already done and use the structure developed for the DFS Web Site: www.dfs.solarfirmen.de – please join the link and have a look. The layout of the Web Site will be adjusted to match the "ESIF Design Manual " i.e. the normal layout of ESIF presentations.

It is seen at the DFS-Site, that many (German and even some European) elements of "Sun in Action II" are actually already integrated in this Site and it works very well navigating around here. That's why we propose an integration of the General Site and the Sun in Action Site: To "get two flies in one punch" we propose in principle to create

- A Sun in Action Web Site
- Add on general information about ESIF
- Name it: "The ESIF Web Site" and giving it the subtitle: "Sun in Action" *(the naming is a preliminary proposal, to be discussed during the project).*

3. Solar Keymark Web Site

From the integrated General ESIF Web Site / Sun in Action Web Site there will be one (or more) links to the Keymark Web Site, which will be established at its own address. The structure of this Site will as far as possible follow the structure presented in "Guidance to the Keymark Internet Presentation" made by the Keymark Scheme Development Group 5 (SDG5). This paper is enclosed in an appendix to this proposal and was briefly presented at the Keymark Kick Off meeting in Brussels 8th of June. The layout of the first version will be in a very neutral "Keymark Layout" using the outline given in "Guidance to the Keymark Internet Presentation". During the project it will be discussed if the Site should have an ESIF-like look - and if so, then to which extend.

4. Work Plan and Budget

	Budget in kEuro		Time Schedule	
ESIF / SiA[1] Site	***DTI***	***DFS***	***Start***	***End***
Adjusting DFS-Site structure to include all Sun in Action elements fitted for home page presentation	0	3	September 2001	March 2002
Prototype	1	2		
Filling in information from the SiA project	10	0		
Revisions	1	1		
Final version	2	2		
Sub total	14	8		
Keymark Site				
Adjusting SDG5 Keymark Site structure to fit solar products	5	0	September 2001	March 2003
Prototype	5	0		
Filling in information from the Keymark project	5	0		
Revisions	2	0		
Final version	4	0		
Sub total	21	0		
Total	***35***	***8***		

The total budget will be 43 kEuro (2/3) out of the maximum 65 kEuro mentioned in the "Background". Suggestion for distribution of the 43 kEuro between the two projects is:
Solar Keymark (2/3 of 15): 10 kEuro
Sun in Action II (2/3 of): 33 kEuro

The time schedule is set by the Solar Keymark and SiA projects.

[1] Sun in Action

Annex 5. Short report from CEN meeting and revised short Keymark description

Notes from the Solar Keymark meeting at CEN, Brussels, 17/8 – 01

Jan Erik Nielsen, Danish Technological Institute, 21/8 -01

Participants:

- Pierre Croon (PC), CEN consultant
- Gaston Michaud (GM), Director – Corporate and legal affairs, CEN
- Jan Erik Nielsen (JEN), Altener Solar Keymark project manager, Danish Technological Institute

Decisions taken:

- JEN makes notes of the meeting
- GM/PC revise the Annex 5 in the Solar Keymark project description
- JEN will be invited for the CCB meeting 11th of September
- It will be suggested to CCB at this meeting to accept/support a working group on the Solar Keymark
- A meeting should be arranged at CEN in Brussels after the CCB meeting between PC, GM, JEN and the Altener Solar Keymark task 2 steering committee: Werner Koldehoff (ASTIG) and Andreas Constantinides (EBHE) both representing the solar industry. At this meeting a very first and rough outline of the Solar Keymark Mark Scheme rules should be generated. It was proposed to take over the general rules from B.1 and B.2 in [1] (maybe with minor modifications) and concentrate the efforts on the specific rules. It was discussed maybe to put some guidelines/requirements on installations, installers and maintenance in the specific rules.
- After this meeting the drafting of the Mark Scheme rules will run. PC/GM kindly offered to assist commenting the drafts along the way.

Notes from the discussions:

The CEN/CENELEC European Mark System (The Keymark System) is right now being fundamentally revised. Discussions is still going, but e.g. the following important changes are foreseen:

- The Keymark is to be licensed for use in conjunction with the marks of existing national certification systems demonstrating conformity with EN's. This means that if a national certification scheme fulfils the requirements in the Keymark scheme rules then it will be possible to add a Keymark to the national mark. So now it's the other way around: Instead of replacing the national certification schemes with a common European one, it is now a matter of building up / adjusting national certification schemes to meet the requirements in the Keymark System.
- The way how to establish a Keymark System will change in the direction of a less time consuming procedure. …. *(a short description is given in the revised Annex 5 [2]in the Solar Keymark project description).*

The final version of [1] describing the new Keymark System is expected ready October, 2001.

[1] CEN/CENELEC INTERNAL REGULATIONS. Part 4: Certification, *The CEN/CENELEC European Mark System', Second draft revision, July 2001.

[2] Annex 5 "The Keymark" to be revised by Michaud/Croon

THE KEYMARK – short description

(revised 10/9 –01 by Pierre Croon, based on the annex 5 of Solar Keymark project proposal)

What is a Keymark:

- The Keymark or the CEN/CENELEC European Mark is a third-party certification mark, demonstrating to users and consumers compliance of products with the requirements of the relevant CEN/CENELEC Standard(s).
- The process of granting to a manufacturer the license to use a Keymark is given in the matching CEN/CENELEC Mark Scheme

How to establish a Keymark:

- Preconditions for establishing the Keymark are existing EN standards for the products and granting a national mark on the basis of national standards transposing those EN standards
- The desire for products to carry the Keymark should come from the market or representative groupings from the market
- To establish a Keymark a CEN/CENELEC European Mark Scheme is needed. In this Mark Scheme the rules for granting the license to a manufacturer to use the mark are given
- CEN has approved the CEN Keymark Scheme Rules. If justified, a project for complimentary rules could be proposed to the CCB by a group of experts or the certification bodies granting the national marks to which the Keymark will be associated
- The CEN Central Secretariat carry out through the CEN national members, an inquiry to evaluate the support from interested parties for the development of the CEN/CENELEC European Mark Scheme
- The CEN Certification Board reviews the results of the inquiry and decide on the eventual proposal for complimentary rules to the CEN Keymark Scheme Rules
- If needed, the CCB can recognise the creation of a Scheme Development Group of experts, as well as the functioning of an Implementation Group under terms to be accepted by the CCB
- Copies of the European Mark Scheme rules are circulated by the CEN Central Secretariat to the CEN members and made available to any interested party.

Some of the basic European Mark Scheme rules:

- The Keymark is given additional to a national mark
- Type testing is performed by a third-party testing laboratory
- Manufacturer shall apply a quality system of at least the level of the EN-ISO 9002 standard (maybe with a transitional period of maximum 3 years)
- Periodic surveillance
- Bodies engaged in certification, testing and inspection shall fulfil the requirements of the relevant EN 45000 / 17000 series standard and shall be accredited for the scope of their activity

Annex 6. Proposal for scope of Keymark Working Group

Dear CCB colleagues

At the last CCB meeting on the 11th SEPTEMBER the CCB after having heard Mr NIELSEN agreed on the creation of a Working body on Solar thermal products .

Mr CROON AND myself met after the CCB meeting some representatives of the solar thermal products industry and we worked out tha proposal for the scope of the agreed body as follow;

TITLE :KEYMARK WG 'Solar thermal products and Systems

SCOPE/ The CCB authorises the creation of the Keymark WG 'solar thermal products and systems' to elaborate specific assessment specifications :

- -definition of the new prototypes
- -surveillance procedures
- -evaluation of the necessity of intercomparaison of tests labs
- -recommendations for future management and costs of the process
- -quality assurance aspects :factory process
- -check of manual instructions
- -classification and specifications on the label

The WG will consist of the participants in the working package 2 of the 'EU solar Keymark project '.The CCB secretariat will be kept informed of the WG activities;

The solar industry is meeting next week (5th OCTOBER) and they would like to know whether CCB can accept the proposed scope for the KEYMARK WG.

Could you please let me know before the 3rd OCTOBER (I will be out of office from that date till the 5th due to the CEN/AG meeting) if you can agree on the proposal .

Without comments from you I will consider that you approve the proposed scope .Should you have remarks I will send them to Mr NIELSEN

Sorry for the delay given but I am just made aware of the date of the industry group which is supporting the project.

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Gaston Michaud - Director
Corporate & Legal Department

CEN - European Committee for Standardization
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Annex 7. AFNOR reaction on Proposal for scope of Keymark Working Group

Mail from Gaston Michaud:

Dear Mr Nielsen,

Further to my e-mail dated 2001-09-27 to the CCB Members, I got a reaction on the proposed scope of the Keymark WG on Solar Thermal products and systems.

The creation of such a WG is not put in questions but the reaction received tend to limit the role of that body to the exam of the ENs, so to propose complementary requirements if the ENs are not complete and to the organisation of intercomparicon tests.

Could you propose the above to the Industry Group meeting this week and let me know it reaction.

Best regards,

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Gaston Michaud - Director
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Original mail from AFNOR:

Bonjour,
Voici la réponse d'AFNOR CERTIFICATION faite en accord avec Jacques BESLIN.

Il nous semble que la mission du futur WG va trop loin par rapport aux nouvelles règles de la KEYMARK.
Son rôle doit être limité à un examen des normes afin de pouvoir proposer des compléments si elles présentent des lacunes et à la décision de procéder à des essais inter comparatifs.
Cordialement.
Catherine VINCENSINI
AFNOR CERTIFICATION
Responsable Coordination

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Annex 8. Specific requirements

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Rules and Requirements of the CEN KEYMARK Scheme for Solar Thermal Products according to :

- EN 12975-1: Thermal solar systems and components - Solar collectors - Part 1: Requirements
- EN 12975-2: Thermal solar systems and components - Solar collectors - Part 2: Test Methods
- EN 12976-1: Thermal solar systems and components - Factory made systems - Part 1: Requirements
- EN 12976-2: Thermal solar systems and components - Factory made systems - Part 2: Test Methods

Part 2: Special Rules for Solar Thermal Products

2 Special Rules for Solar Thermal Products

2.1 Introduction

Part 2 consists of the special requirements for solar thermal products and how they are to be tested. It refers to solar thermal products being subject to the relevant EN product standards.

2.2 Scope of application

Part 2 contains the requirements for conformity assurance as well as the procedures for initial testing, surveillance, marking, complaints etc.

2.3 Application

The application shall be submitted on a special form (part 1: annex S) being obtainable at a member of CEN or an accredited certifier.

The applicant shall provide the certifier with the following information for each product line:

a) product documentation according to EN 12975 respectively EN 12976, depending on the type of the solar thermal product;
b) documentation on that part of the quality system as per EN ISO 9002 or equal referring to the product line and the characteristics of the solar thermal product;
c) the quality plan assessing the conformity of the solar thermal product with the requirements of standards EN 12975-1 respectively EN 12976-1;

An application form (part 1: chapter 2.19) shall be filled in and duly signed for each type of solar thermal product. The product information given shall be according to standards EN 12975 respectively EN 12976.

2.4 Requirements for conformity compliance

2.4.1 Quality system

The quality system to be applied by the applicant according to chapter 1.6.1, part 1 ‚General Rules" covers the requirements for the specific processes resulting from standards EN 12975 and EN 12976, split up as follows:

a) Initial type testing (requirements for the appliances) and requirements for the production site (see chapter 2.5);
b) Process control and inspection of the production;
c) Process control and inspection in designing the solar thermal product (complete systems only – i.e. products related to EN 12976);
d) Process control and inspection in installation the solar thermal product (complete systems only – i.e. products related to EN 12976);

The specific requirements for the different types of solar thermal products are included in the quality plan (see chapters 2.4.2 and 2.10: annex to chapter 2.4.2).

2.4.2 Quality plan

The quality plan to be applied by the applicant or licence holder as per chapter 1.6.2, part I refers to the product line of the respective solar thermal product and includes the minimum requirements defined in the annex (chapter 2.1 0) for the following sectors:

- type tests
- production
- design
- installation

On the basis of these minimum requirements the applicant develops his product-specific quality plan.

2.4.3 Records

The records document the results of the application of the quality plan for solar thermal products (as per 2.4.2). The results of the inspections and tests according to the quality plan are to be recorded in its last version as proof of implementation. The preservation period for these records corresponds to the utilisation period of the device. The licence holder may choose the means of recording (on paper, data processing etc.).

2.5 Initial test procedure

2.5.1 Inspection of the appliance and its application

2.5.1.1 Inspection of the appliance: type testing

When conducting a type test of solar thermal products for product certification the authorised testing body shall ascertain that the product to be certified is in conformity with the requirements of standards EN 12975 respectively EN 12976.

2.5.1.2 Type and quantity of samples

The applicant shall submit with his application to the certifier or the authorised inspection body a declaration of commitment stating that the solar thermal products subject to testing correspond to the current or future production.

For the type tests the certifier or the authorised testing body shall receive one solar thermal product of each type.

(documents see chapter 2.3)

2.5.2 Initial inspection

2.5.2.1 Initial inspection

The initial inspection includes the checking of the quality plan and the quality system applied by the applicant. In this connection the respective state of art of the product is to be considered.

2.5.2.2 Recording of initial inspection

The report of the initial inspection should include the, following:

a) details of the performance of the initial inspection:
   - applicant
   - product line - inspectors
   - scope of inspection - date of inspection

b) details of the result of the initial inspection - overall evaluation
   - assessed deviations
   - stipulated corrective measures within a set time

2.6 Surveillance procedures

The surveillance system of this programme contains the following elements:

2.6.1 Control inspection

The control inspection verifies by spot checks the conformity with the criteria mentioned in chapter 2.5.2. The surveillance audits according to EN ISO 9002 shall be recognised as inspection report.

The intervals of these control inspections should not be longer than 2 years,

If an applicant has more than one manufacturing site, the surveillance of the quality plan shall be conducted in all plants by the same inspection body.

The certifier may demand to repeat inspections in case of justified doubts concerning the conformity of solar thermal product bearing the Keymark.

Should the quality plan or its application not comply with the requirements, the measures according to chapter 2.9.2 or 2.9.3 enter into force.

2.6.2 Control test of product

A control test of the type of appliance shall be effected at least every 2 years after its certification or after the last control test.

Should a licence holder produce the same type of appliance at several locations, the test shall be made using samples manufactured at the different factories,

The control test includes the conformity test with the initially tested samples of the type test, especially considering the criteria in the annex under II. (chapter 2.1 0),

In case of nonconformity with a requirement, the measures according to chapter 2.9.2 or 2.9.3 enter into force.

2.7 Qualifications to perform tests and inspections

2.7.1. Requirements on measuring methods

The measuring equipment of the test and inspection bodies shall comply with the minimum requirements given in EN 12975-2 and EN 12976-2 respectively. Additional equipment may be required if measuring methods prove it necessary.

2.7.2. Requirements on the personnel

The control of solar thermal products according to this programme does not only require competent, experienced and reliable personnel but the test authority must be a guarantee for neutral and objective testing. The testing authority, its management and personnel shall not be under commercial, financial or other pressures, which might influence the results of the testing process.

2.7.2.1 Proof of competence of the personnel in charge

The necessary competence is generally proved by:

- a university degree or graduation at a college of technology as physicist/engineer or in a relevant field as well as

- by appropriate knowledge in the respective field and of the products as well as data processing.-This includes knowledge about:
  - solar thermal products
  - water installations
  - heating installations
  - relevant applicable standards and technical specifications (e.g. EN 12975, EN 12976).

- The required knowledge can in principle be proven by a respective professional experience of at least three years.

2.8 Marking

2.8.1 Attaching the mark

The European Mark CEN/CENELEC (the Keymark) shall be used in accordance with annex A.

The Mark shall in principle be put on the product itself. If placing on the product is not possible or practical, the Mark shall be put on the product's package, the label attached to it, the instructions for use or accompanying commercial documentation.

The certifier shall consider the proposals of the applicant as to the placing of the CEN/CENELEC European Mark (the Keymark).

2.8.2 Identification

The European Mark CEN/CENELC includes an identification code referring to the Organisation empowered to implement the CEN/CENELEC European Mark Scheme for solar thermal products according to EN 12975 respectively EN 12976.

A list of certifiers and their respective identification codes are included in annex D (part 1).

2.9 Procedure in case of complaints

Complaints about certified products may be lodged with the licence holder, any certifier or the CEN (national CEN members, respectively the CEN Central Secretariat). If a complaint is received by CEN it is sent to the relevant certifier.

The licence holder of certified solar thermal products shall:

- keep a record of all complaints and upon request make them available to the certifier;
- take appropriate actions in case of complaints concerning the respective type of product, respectively its application infringing the compliance with the requirements for certification and
- document the actions taken.

2.9.1 Corrective actions

If the results of the surveillance show non-compliance with the rules of this Scheme, the certifier shall require the licence holder to take corrective actions within a defined period - which will not normally exceed three months. Additional surveillance may be carried out at the expense of the licence holder.

2.9.2 Suspension of the right of use

Certifiers may suspend the right of use of the European Mark CEN/CENELEC in the following cases:

a) the solar thermal products are no longer in conformity with the respective European standards. However, this non-conformity does not require total withdrawal,
b) the licence holder does no longer fulfil the clauses of the contract through which he has been granted the right of use of the European Mark CEN/CENELEC,
c) if corrective measures have not been taken as referred to in chapter 2.9.1, d) if safety, health, or environmental factors are involved,
d) upon request of the licence holder, for example, if the production of the solar thermal products concerned is temporarily halted. The conditions of the suspension are then agreed between the licence holder and the certifier.

The suspension is notified by the certifier to the-licence holder, together with the following information:

a) the period of suspension,
b) the justification,
c) the practicalities of implementing the suspension, in particular with respect to the solar thermal products already on the market with the Mark (e.g. product recall, advising the purchasers etc.),
d) conditions to be fulfilled by the licence holder for the lifting of the suspension. These may include a successful inspection at the initiative of the certifier at the end of the suspension period.

The lifting of the suspension is notified to the licence holder by the certifier. At the same time, the certifier notifies all other certifiers and the CEN Central Secretariat.

2.9.3 Withdrawal/Cancellation of the right of use

The cancellation of the right of use may be initiated by the certifier, either when measures described in chapter 2.9.1 and 2.9.2 had no effect or in serious cases. The other participating certifiers and the CEN Central Secretariat are notified of the cancellation. The licence holder may appeal against the decision of the certifier according to CEN Internal Regulations clause 5.7 section 2.

2.9.4 Marketing of products with the Mark in case of suspension or cancellation

In the case of suspension or cancellation of the right of use as described in chapter 2.9.2 and 2.9.3, the certifier may, depending on the non-conformity, require the licence holder to remove the European Mark CEN/CENELEC from the affected products in the plant and on the market.

In the case of a cancellation and where the certifier has authorised the clearance of products bearing the European Mark CEN/CENELEC, this authorisation will be limited to a fixed period. In these cases, the certifier reserves the right to exercise the controls over the clearance option.

Annex 9. List of participants in kick off meeting

Participants, Solar Keymark Kick Off Meeting, June 2001, Brussels				
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Annex 10. List of project participants

List of participants in AL 2000/144: Solar Keymark				
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