



## Minutes

### 2. Solar Keymark Network Meeting

#### Item 1: Opening of the meeting

The chairman of the Solar Keymark Network, Harald Drück opened the meeting and welcomed the participants. He 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 and manufacturers) working according to the Solar Keymark scheme rules.

The meeting took place on Thursday, February 15<sup>th</sup>, 2007 from 13.30 till 15:50 hrs at the EUREXPO Trade Fair, Lyon, Room salle 6.

The invitation and the agenda of the meeting was sent out by email dated January 29<sup>th</sup>, 2007. The version of the agenda named "3. Draft Agenda" (File: SK\_NW\_AG2B 29/01/2007) was accepted by the participants with a small change concerning the inclusion of one additional item. The final agenda that was agreed on at the beginning of the meeting is included as Annex B.

Furthermore the minutes of the 1<sup>st</sup> Solar Keymark Network meeting (File: SK\_NW\_MIN1A.PDF 19/07/2006 sent out by email dated July 19<sup>th</sup>, 2006 were approved without any changes.

#### Item 2: Introduction of participants

The participants were asked to introduce themselves. The list of participants is attached as Annex A.

#### Item 3: Presentation of the Solar Keymark II Project

A short presentation about the Solar Keymark II project is given by Jan Erik Nielsen.

The presentation is included as Annex C. For further information see: [www.solarkeymark.org](http://www.solarkeymark.org)

#### Item 4: Solar Keymark and CE-mark

Jan Erik Nielsen explained that there is a request from the commission for CE-marking of solar collectors on the basis of Construction Product Directive (CPD: Council Directive 89/106/EEC). Based on a resolution made by TC 312 (RESOLUTION 3, CEN/TC 312 – GRAN CANARIA, SPAIN, 2006-04-03 & 04) work on the CE-marking of solar collectors should start provided that funding for these activities is available. It is not expected that this will be the case within the next year.

He pointed out that it will take approximately 5 to 6 years until the CE-mark for solar collectors will be available on the basis of the CPD. When this is the case, the Solar Keymark and the CE-Mark will exist in parallel.

As it is currently foreseen the CE-marking based on the CPD will follow the “level 3 approach”: type testing and declaration.

After a short discussion it was doubted whether the level of the CE-marking was already discussed within ESTIF and if the “level 3 approach” is the appropriate one. It was proposed to discuss this topic again within ESTIF.

### **Item 5: Test reference years**

With regard to the performance prediction according to EN 12976 it is essential that all labs use the same weather data. In order to ensure this a common procedure was agreed on during the last Solar Keymark Network Meeting in June 2006.

#### **Weather data:**

It was agreed that with regard to the weather data for specific countries the persons listed below will act as a contact point. On request these persons shall supply weather data that are not protected with any copyright.

Sweden:	Ulrik Pettersson / Peter Kovacs (SP)
Germany:	Harald Drück (ITW)
Denmark:	Jan Erik Nielsen (SolarKey)
Spain:	Pilar Navarro Rivero (ITC)
Austria:	Josef Buchinger (arsenal)
Greece:	Emmanouil Mathioulakis, Giorgos Panaras (Demokritos)
Italy:	Vinood Shama (ENEA)
Poland:	Marian Gryciuk (ECBREC)
Portugal:	Maria Carvalho (INETI)
France:	Dominique Caccavelli (CSTB)
Switzerland:	Andreas Bohren (SPF) offered additionally at this meeting to investigate if SPF could also contribute

Furthermore it was agreed that the persons should send the check-sum figures (procedure for calculation of check-sum figures see minutes of meeting in June 2006 ) for *their* weather data to Harald Drück until the end of August 2006.

Up to now (February 2007) only the check-sum figures for Greece from Giorgos Panaras (Demokritos) and for Portugal from Maria Carvalho (INETI) were received by Harald Drück.

Harald Drück pointed out the importance of this activity and reminded the participants to send him the check-sum figures for their weather data. New deadline: March 30<sup>th</sup>, 2007.

### **Item 6: Revision of standard EN 12975 and Solar Keymark**

With regard to the rules for testing collectors of the same type but different sizes it was discussed if it is necessary to test the smallest and the largest one or if the process can be simplified by testing only one collector.

**Decision – 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.*

In this context it was also mentioned, that within the EKTSUB (German experience exchange circle of test labs for thermal solar systems and components) it was already discussed what can be considered as “same type”. As a result of this discussion different collector designs were classified with regard to the aspect, whether they can be considered as “the same” concerning performance testing as well as quality testing.

The document containing the results of this discussion is included as Annex D.

**Item 7: Revision of standard EN 12976 and Solar Keymark**

The revised version of EN 12976 is now available.

According to the present version of the standard it is necessary to test every factory made system of the same type but different size of the collector area or the store volume.

Harald Drück mentioned the activities within the Solar Keymark II project in order to overcome this problem.

**Item 8: Revision of standard EN (TS) 12977 and Solar Keymark**

The revised standard series EN (TS) 12977 will consist of the following parts:

CEN/TS 12977-1:

Thermal solar systems and components - Custom built systems - Part 1: General requirements for solar water heaters and combisystems

CEN/TS 12977-2:

Thermal solar systems and components - Custom built systems – Part 2 Test methods for solar water heaters and combisystems

EN 12977-3:

Thermal solar systems and components - Custom built systems - Part 3: Performance test methods for solar water heater stores

CEN/TS 12977-4:

Thermal solar systems and components - Custom built systems - Part 4: Performance test methods for solar combistores

CEN/TS 12977-5:

Thermal solar systems and components - Custom built systems - Part 5: Performance test methods for control equipment

The public CEN Enquiry for prEN 12977-3 ended with deadline Feb. 14<sup>th</sup>, 2007. With this deadline also the unofficial enquiry of prCEN/TS 12977-1, -2 and -5 ended.

Based on the timeframe given by CEN the deadline for the submission of the final drafts of prCEN/TS 12977-1,2,4, 5 was the end of January 2007.

In order to ensure that all five parts can be processed in parallel for the formal voting a prolongation of the deadline for 9 months (called 9 months tolerance) was requested by TC 312 WG3 and accepted by CEN TC 312.

The results of the enquiry will be discussed during the next meeting of TC 312 WG3. This meeting was originally scheduled for the beginning of 2007 but had to be postponed due to the delayed enquiry of prEN 12977-3.

With regard to the internal processing of the results from the enquiry the earliest date is at the beginning of May 2007.

The discussion about possible dates for the meeting and the location led to the following result:

**14.- 16. May 2007, London**

23.- 25. May 2007, London

29.- 31. May 2007, London

Harald Drück will check with Chris Laughton and Ms. Cohrs if the meeting can be held on one of these dates (preferably on the one printed in bold).

Furthermore Harald Drück mentioned the importance of the standard series EN (TS) 12977 and the strong wish of the manufacturers to have a Solar Keymark for custom built systems on the basis of the standard series EN (TS) 12977.

In this context Jan Erik Nielsen reported from a meeting with the CEN Certification Board (CCB) on February 13<sup>th</sup>, 2007 in Brussels where he tried to convince CCB allow keymarking on the basis of an EN TS (which is usually not possible). The presentation that he gave at this meeting is attached as Annex E.

CCB was very impressed by the success of the Solar Keymark and thought about making an exception. A final decision if keymarking will really be possible on the basis of the standard series EN (TS) 12977 will be made by CCB before the first of March 2007.

## **Item 9: Solar Keymark Certificates – harmonisation of information content**

Rob Meesters from Solahart requested that the different certifiers should harmonise the information content (e. g. with regard to the presentation of thermal performance figures) of the data sheet related to the Solar Keymark Certificate.

Sören Scholz (DIN CERTCO) mentioned that he is in favour of a common data sheet. Also the representatives from CERTIF and Greece expressed that they are open for a discussion.

It was decided that the certifiers should send the data sheets that they currently use for collectors and systems to Sören Scholz (Email: Soeren.Scholz@dincertco.de) until the end of February 2007.

Based on that input he will make a proposal for data sheets with a common information content for collectors and systems and send them out to the Solar Keymark Network for discussion.

A final decision on the common data sheets should be made at the next Solar Keymark Network meeting.

Furthermore it was agreed that these common data sheets should be added to the revised version of the scheme rules as an annex.

### **Item 10: Who is manufacturer and where is the location for picking of test samples**

Josef Buchinger would like to have clearly defined who is the manufacturer and at which location test samples should be taken out of the current production or the stock of the manufacturer.

This is e. g. relevant for the following situation:

In case that a collector sales and assembling company located e. g. in Europe is importing vacuum tubes e. g. from China and the other parts of the collector e. g. from India

After a controversial discussion the SK-Network group agreed on the following:

#### **Decision – 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.

*Related to the question “who is manufacturer” Mr. Hoang Liauw from CEN did send an email to Harald Driick dated Friday 16<sup>th</sup>, 2007 explaining that the European Commission has also prepared a draft text including a definition of manufacturer. It is intended that this proposal will be present to the European Council and the European Parliament within the next days. If this is the case, further information is available on the following website: [http://ec.europa.eu/enterprise/newapproach/review\\_en.htm](http://ec.europa.eu/enterprise/newapproach/review_en.htm)*

### **Item 10: Solar Keymark factory inspection check list**

The aim is to agree on a common check list. In order to do this, it was agreed that as a basis for this all certifiers should send their factory inspection check list in English language to Stephan Fischer (SF) by the end of August 31<sup>st</sup>, 2006.

Based on the input from CERTIF, CSTB, DINCERTCO and ELOT a first draft “Factory Inspection Report” was prepared by SF and sent out to the participants by email dated Feb. 11<sup>th</sup>, 2007.

This first draft was partly discussed and it was agreed that based on the results of the discussion SF will prepare a second draft. Until the end of February 2007 this 2<sup>nd</sup> draft will be sent out for commenting. Feedback shall be given by email not later than the end of March 2007 to Stephan Fischer (email: [fischer@itw.uni-stuttgart.de](mailto:fischer@itw.uni-stuttgart.de)).

### **Item 11: Any other business**

Nothing reportable was discussed related to any other business.

**Item 12: Date and place of next meeting**

It was decided that the next meeting will be held in conjunction with the next Solar Keymark II Project meeting taking place from October 1<sup>st</sup> – 2<sup>nd</sup>, 2007 at arsenal research at Vienna, Austria.

Date and place for next Solar Keymark Network Meeting:

**Oct. 2<sup>nd</sup>, 2007 from approx. 14:00 hrs to 16:00 hrs at Vienna**

**Item 13: End of meeting**

Harald Drück thanked the participants for attending the meeting and for their constructive contributions. He closed the meeting at 15:50 hrs.

The minutes were prepared by Harald Drück (Chairman of the Solar Keymark Network)  
Stuttgart, February 18<sup>th</sup>, 2007

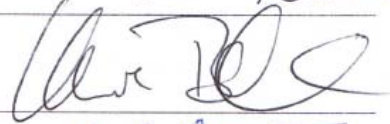


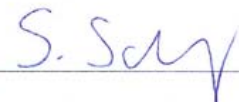
**Contact address:**










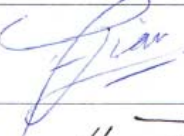
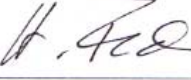

Harald Drück  
ITW, Stuttgart University  
Pfaffenwaldring 6  
70550 Stuttgart, Germany  
Email: [drueck@itw.uni-stuttgart.de](mailto:drueck@itw.uni-stuttgart.de)

## Annex A: List of participants

### SOLAR KEYMARK NETWORK

2<sup>nd</sup> MEETING, LYON FEBRUARY 15<sup>TH</sup> 2007

NAME	ORGANISATION	SIGNATURE
Giorgos Panaras	ELOT (Greece) / ΔΕΛΤΑ ΕΡΕΥΝΑΣ (GREECE)	
Josef Buchinger	arsenal (Austria)	
Pilar Navarro Rivero	ITC (Spain)	
Åsa Wahlström	SP (Sweden)	
Ulrik Pettersson	SP (Sweden)	
Uwe Brechlin	ESTIF (Belgium)	
Jan Erik Nielsen	SolarKey (Denmark)	
Andreas Bohren	SPF (Switzerland)	
Dominique Caccavelli Bouzid KHEBCHACHE	CSTB (France)	
Korbinian Kramer	ISE (Germany)	
Stefan Mehnert	ISE (Germany)	
Maria Carvalho	INETI (Portugal)	
Sören Scholz	DINCERTCO (Germany)	

Vinod Shama	ENEA (Italy)	
Marian Gryciuk	ECBREC/CLN (Poland)	
Tomas Hruska	Engineering Test Institute (Czech Republic)	
Joao Nascimento	CERTIF (Portugal)	
Stephan Fischer	ITW (Germany)	
Harald Drück	ITW (Germany)	
Alberto Garcia de Jalon agarciadejalon@cener.com	Cener (Spain)	
Francois Durier francois.durier@cetiat.fr	CETIAT (France)	
Yamina Saheb	CSTB	
HOANG LIAUW	CEN	 HOANG.LIAUW@ CEN.EU
Hubert FECHNER	arsenal research	
PAUL MC ENTEE	THERMOMAX LTD	 paul.mcantee@ thermosmax.co.uk.



## Annex B: Final agenda

### Solar Keymark Network

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



## 2. Solar Keymark Network Meeting

Thursday, February 15<sup>th</sup>, 2007 13.30- 15:45 hrs  
EUREXPO, Lyon, France, Room “salle 6”

### Final Agenda

Item	Content
1	Opening of the meeting Harald Drück (ITW)
2	Introduction of participants
3	Short presentation of the Solar Keymark II Project Jan Erik Nielsen, SolarKey Int., ESTIF consultant
4	Solar Keymark and CE-mark
5	Test reference years for performance prediction acc. to EN 12976 <i>How to ensure that all labs use the same data?</i>
6	Revision of standard EN 12975 and Solar Keymark <i>Simplification of rules for testing collectors of same type but different sizes</i>
7	Revision of standard EN 12976 and Solar Keymark <i>Simplification of rules for testing systems of same type but different sizes</i>
8	Revision of standard EN (TS) 12977 and Solar Keymark
9	Solar Keymark Certificates – harmonisation of information content
10	<b>Who is manufacturer and where is location for picking of test samples</b>
11	Solar Keymark factory inspection check list <i>Agreement on a common check list</i>
12	Any other business
13	Date and place of next meeting
14	End of meeting

Information how to reach EUREXPO can be found at:

The meeting is at the same place as the renewable energy exhibition:  
“LE SALON DES ÉNERGIES RENOUVELABLES 2007”


Further information: <http://www.energie-ren.com/2007/index.php>

#### Contact address:

Harald Drück  
ITW, Stuttgart University  
Pfaffenwaldring 6  
70550 Stuttgart, Germany  
Email: [drueck@itw.uni-stuttgart.de](mailto:drueck@itw.uni-stuttgart.de)

# Annex C: Presentation of Solar Keymark II project

## SolarKeymark-II



**A large open EU market for solar thermal quality products**

**Project Participants from 14 EU countries:**

- Coordinator: European Solar Thermal Industry Federation
- 3 industry partners: AT, NL, UK
- 7 institutions: AT, DE, ES, FR, GR, PT, SE
- 1 private consultant: DK
- 3 subcontractors: CZ, IT, PL

Duration: January 2006 – December 2007 (24 months)  
 Project N°: EIE/05/052/SI2.420194  
 Info: info@estif.org; jen@solarkey.dk; www.solarkeymark.org

Intelligent Energy Europe ESTIF Technical Consultant SolarKeymark IEEA Contractors Meeting December 4-5, 2006

## SolarKeymark-II



**Why:**



30-50% of all glazed collectors are crossing national borders:  
 → Important to eliminate trade barriers:  
 Change from many different national certification schemes to **one European** → CEN Keymark


**To whom:**

**Primary target groups:** European solar thermal industry, national authorities  
**Benefits:** One common large market → rational production → cheaper quality products  
**Secondary target group:** All of us – reliable products – environment – energy supply



Intelligent Energy Europe ESTIF Technical Consultant SolarKeymark IEEA Contractors Meeting December 4-5, 2006

## SolarKeymark-II



**How**

**Trade Barriers**

- ✓ Initial analysis of cross border trade
- ✓ Status and evaluation of trade barriers
- Actions and initiatives to overcome the barriers and contribute to a more coherent situation
- Status of remaining trade barriers at the end of the project

**Solar Keymark implementation**

- ✓ Solar Keymark Network
- Quality assurance measures
- Minimising testing effort by maximising testing flexibility

**EPBD implementation**

- New buildings
- Existing buildings

**Standards**

- General acceptance of Standards
- Establish the basis for Keymarking of solar tanks

**Dissemination / Promotion**

- ✓ Solar Keymark Brochure
- ✓ Industry Workshops
- ✓ Newsletters
- ✓ Project Website

Intelligent Energy Europe ESTIF Technical Consultant SolarKeymark IEEA Contractors Meeting December 4-5, 2006

## SolarKeymark-II



**Solar Keymark is a success!**

**Already by the end of 2006 it is expected that:**

- ✓ All EU countries accept Solar Keymark in their national certification schemes
- ✓ 40-50% of collectors sold now have Solar Keymark

**Available now:**

- ✓ "Initial country reports" describing national regulation, subsidy schemes, certification schemes and others:

- ✓ Austria
- ✓ Denmark
- ✓ France
- ✓ Germany
- ✓ Greece
- ✓ Italy
- ✓ The Netherlands
- ✓ Portugal
- ✓ Spain
- ✓ Sweden

✓ Solar Keymark Brochure → [www.solarkeymark.org](http://www.solarkeymark.org)



Intelligent Energy Europe ESTIF Technical Consultant SolarKeymark IEEA Contractors Meeting December 4-5, 2006

## **Annex D**

### **Document from EKTSUB related to “what can be considered as the same type “**

Within the EKTSUB (German experience exchange circle of test labs for thermal solar systems and components) it was discussed what can be considered as “same type”. As a result of this discussion different collector designs were classified with regard to the aspect, whether they can be considered as “the same” concerning performance testing as well as quality testing.

The results of this discussion are presented in the following. Due to the fact, that the EKTSUB is a German speaking group, the document is only available in German language.

With regard to the assessment of quality and performance testing the most important translations are:

Gleich:	the same
Nicht gleich:	not the same
Ermessen des Prüfinstituts:	discretion of the test lab

EK-TSuB 06-05

#### **EK-TSuB, TOP4 Definition einer Modellreihe von Kollektoren im Rahmen der Solar Keymark (A. Bohren, SPF Solartechnik)**

Thema:

Die Keymark erlaubt die Zertifizierung von Kollektortypen. Um den Wert der Keymark zu erhalten müssen wir als Prüfinstitute eine kohärente Linie haben betreffend der Frage was ein Kollektortyp ist.

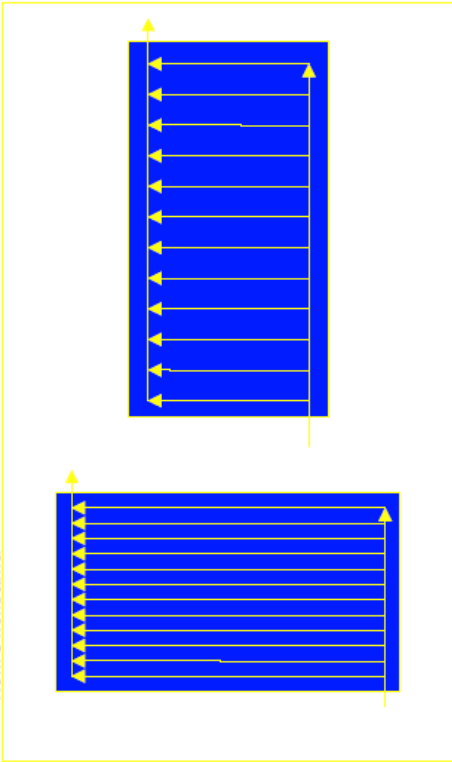
Definition Kollektortyp (Keymark Scheme Rules): „*Same*“ collector in different lengths and/or widths (i.e. the only difference between two collectors is the length and/or the width). Vergleich der Flächen über Gross area.

Aufgabe: „“ von *Same* mit Inhalt füllen.

Approach:

Verschiedene Hersteller haben Ihre Vorstellungen darüber was alles zu einem Kollektortyp zusammengefasst werden kann kommuniziert (im Rahmen von Anfragen/Offerten). Diese Vorstellungen sind im Folgenden als Kollektorschemata dargestellt als Diskussionsvorlage.

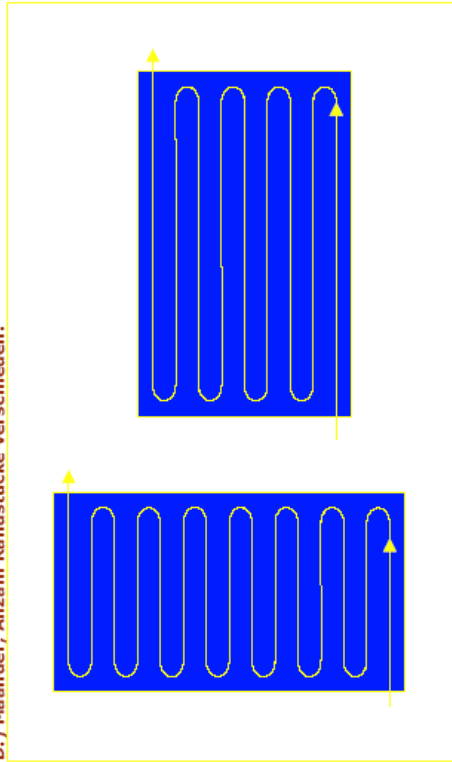
C.) Harfe „z-durchströmung“, Absorber verkippt, Verrohrung nicht. Anzahl Rohre konstant.



Performance:  
Quality:

Nicht gleich  
Ermessen des Prüfinstituts

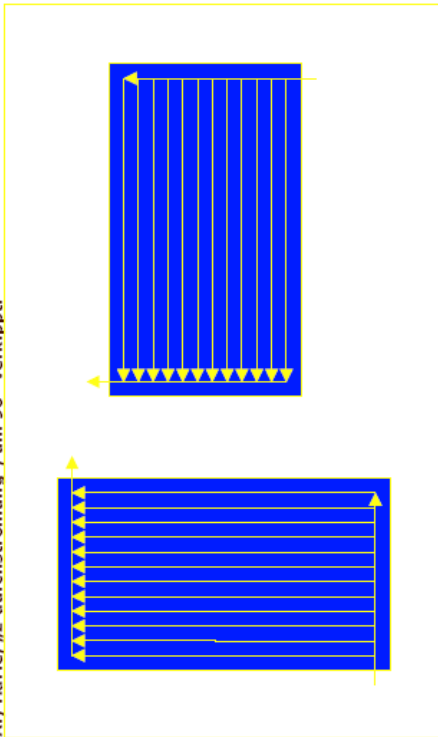
D.) Mäander, Anzahl Randstücke verschieden.



Performance:  
Quality:

Ermessen des Prüfinstituts  
Ermessen des Prüfinstituts

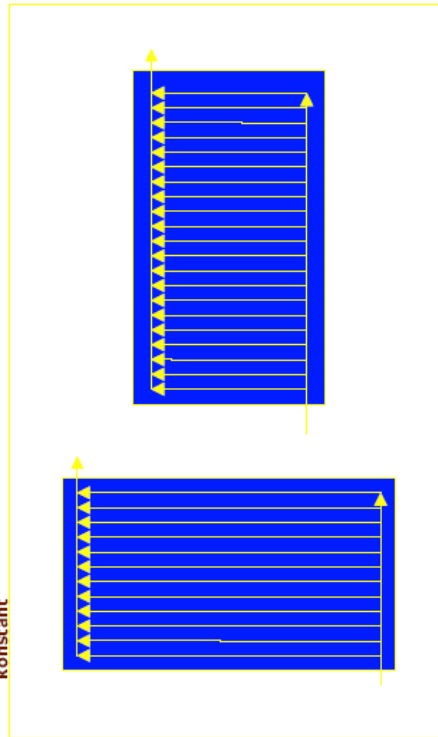
A.) Harfe „z-durchströmung“, um 90° verkippt.



Performance:  
Qualität:

Gleich  
Gleich

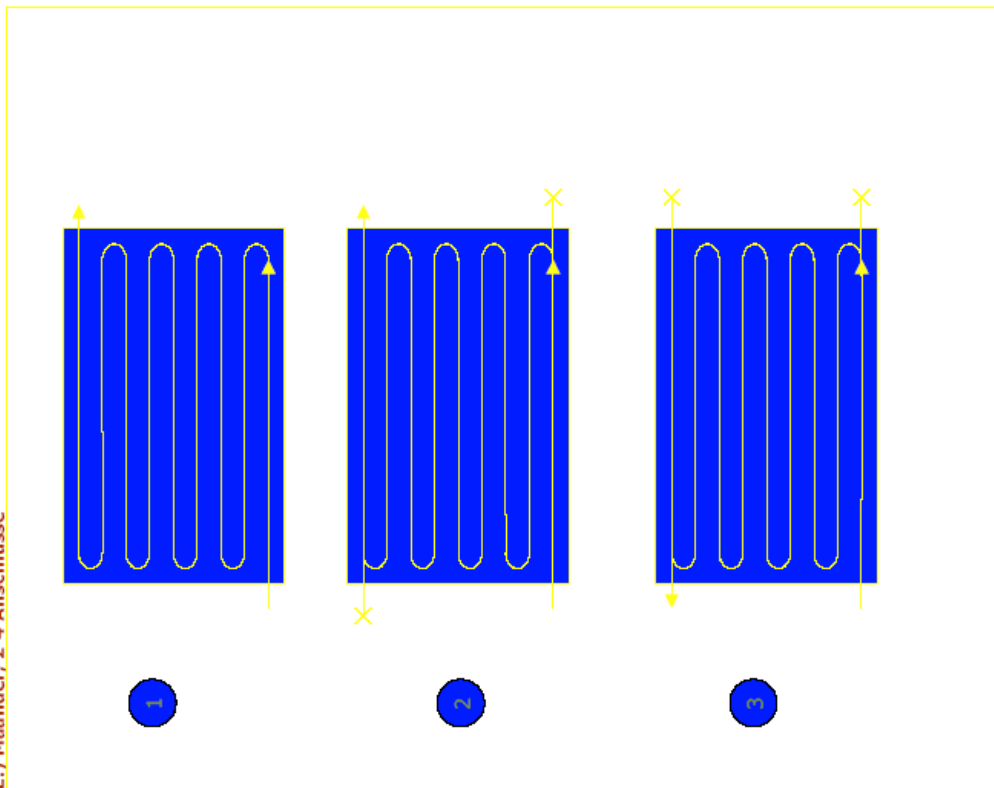
B.) Harfe „z-durchströmung“, Absorber verkippt, Verrohrung nicht. Teilung konstant



Performance:  
Quality:

Ermessen des Prüfinstituts  
Nicht gleich

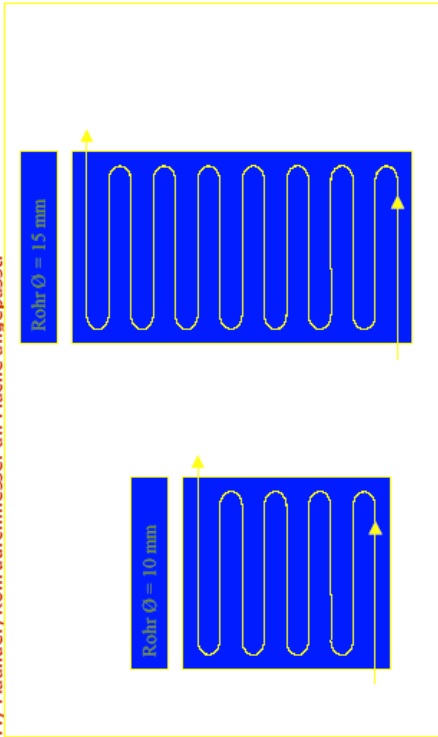
E.) Mäander, 2-4 Anschlüsse



Performance:  
Quality:

Ermessen des Prüfinstituts  
2&3 Gleich  
1&2 resp. 1&3 Ermessen des Prüfinstituts

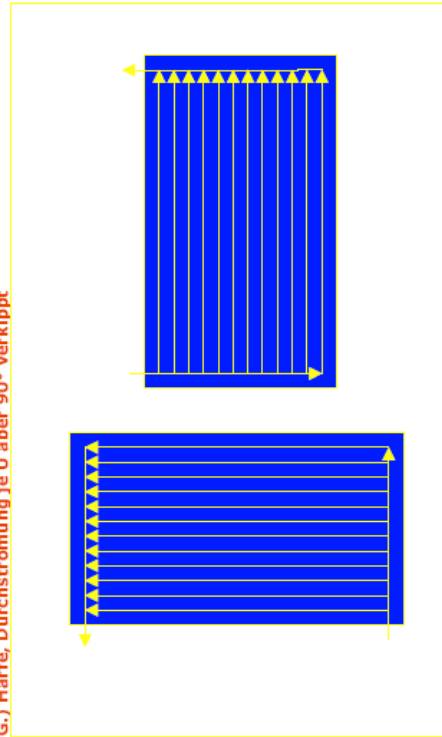
F.) Mäander, Rohrdurchmesser an Fläche angepasst.



Performance:  
Quality:

Nicht gleich  
Nicht gleich

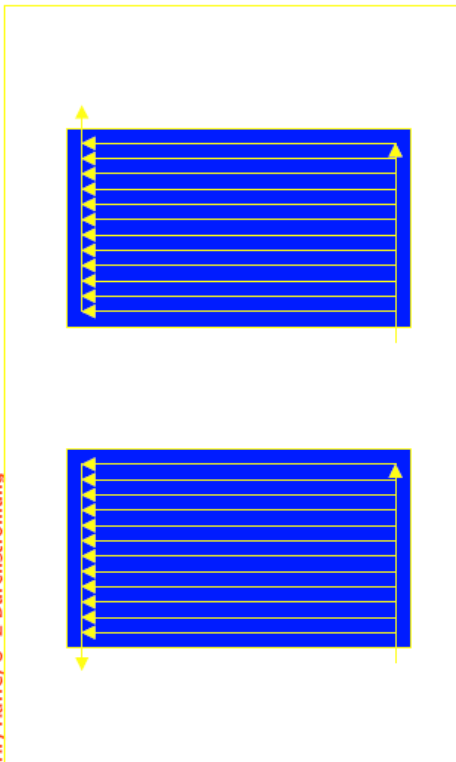
G.) Harfe, Durchströmung je U aber 90° verkippt



Performance:  
Quality:

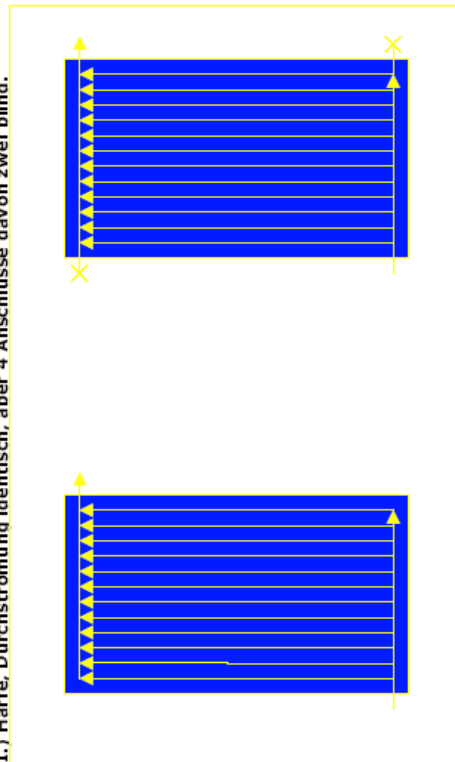
Gleich  
Gleich

H.) Harfe, U-Z Durchströmung



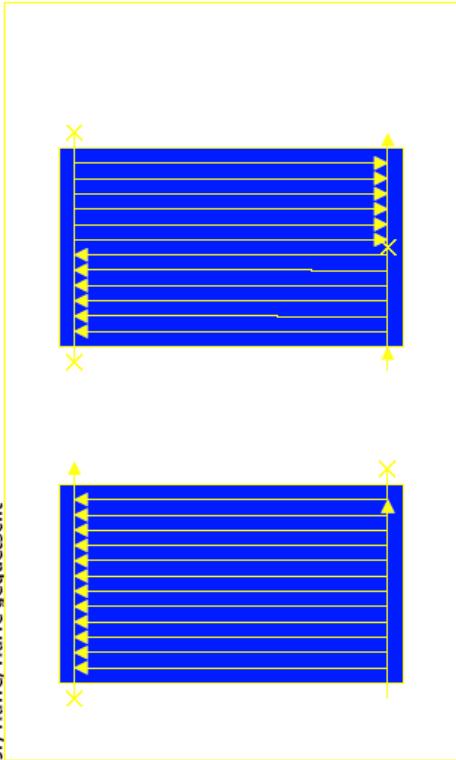
Performance:  
Quality: **Erkennen des Prüfinstituts**  
**Erkennen des Prüfinstituts**

I.) Harfe, Durchströmung identisch, aber 4 Anschlüsse davon zwei blind.



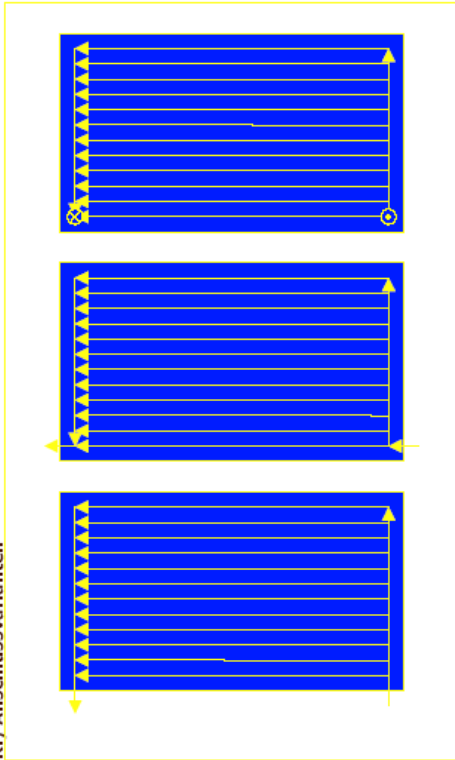
Performance:  
Quality: **Erkennen des Prüfinstituts**  
**Erkennen des Prüfinstituts**

J.) Harfe, Harfe gequetscht



Performance:  
Quality: **Nicht gleich**  
**Erkennen des Prüfinstituts**

K.) Anschlussvarianten



Performance:  
Quality: **Gleich**  
**Erkennen des Prüfinstituts**



## Annex E: Presentation to CCB

**Solar Keymark**  
J.E. Nielsen  
European Solar Thermal Industry Federation, ESTIF

**Background (1)**

National subsidies for solar thermal systems are given in some of the EU member countries

In the past: Different national requirements (on collectors)  
→ A lot of testing and certification were needed  
→ De facto barriers to trade

Solar Keymark has now been available for some years and has been a big success concerning collectors: Solar Keymark is now accepted all over Europe – barriers have been broken down

Solar Keymark is very well recognised in the solar thermal sector

CCB February 2007

**Solar Keymark**  
J.E. Nielsen  
European Solar Thermal Industry Federation, ESTIF

CCB February 2007

**Solar Keymark**  
J.E. Nielsen  
European Solar Thermal Industry Federation, ESTIF

**Published EN product standards**

Standard reference	Title
EN 12975-1:2006	Thermal solar systems and components - Solar collectors - Part 1: General Requirements
EN 12975-2:2006	Thermal solar systems and components - Solar collectors - Part 2: Test methods
EN 12976-1:2006	Thermal solar systems and components - Factory made systems - Part 1: General requirements
EN 12976-2:2006	Thermal solar systems and components - Factory made systems - Part 2: Test methods
ENV 12977-1:2001	Thermal solar systems and components - Custom built systems - Part 1: General requirements
ENV 12977-2:2001	Thermal solar systems and components - Custom built systems - Part 2: Test methods
ENV 12977-3:2001	Thermal solar systems and components - Custom built systems - Part 3: Performance characterisation of stores for solar heating systems

CCB February 2007

**Solar Keymark**  
J.E. Nielsen  
European Solar Thermal Industry Federation, ESTIF

**Factory made systems / Custom built systems**

**"Factory made solar heating systems** are batch products with one trade name, sold as complete and ready to install kits, with fixed configurations. ... If a Factory Made Solar Heating System is modified by changing its configuration or by changing one or more of its components, the modified system is considered as a new system for which a new test report is necessary."

**"Custom built solar heating systems** are ... assembled by choosing from an assortment of components. Systems of this category are regarded as a set of components. The components are separately tested and test results are integrated to an assessment of the whole system. ..."

CCB February 2007

**Solar Keymark**  
J.E. Nielsen  
European Solar Thermal Industry Federation, ESTIF

**Background (2)**

But now different national requirements for whole systems are coming up - new barriers are being built

Common flexible certification needed also for systems – Keymark for "Factory made systems" is very slow developing – limited market for these systems

Solar Keymark for "Custom built systems" is needed as quick as possible – large market for these systems in "subsidy countries"

CCB February 2007

**Solar Keymark**  
J.E. Nielsen  
European Solar Thermal Industry Federation, ESTIF

**EN's & CEN/TS's underway**

Title	Candidate Citation	Status	Dates
prCEN/TS 12977-1	Thermal solar systems and components - Custom built systems - Part 1: General requirements for solar water heaters and combisystems	Being developed Expected published	2007-12
prCEN/TS 12977-2	Thermal solar systems and components - Custom built systems - Part 2: Test methods for solar water heaters and combisystems	Being developed Expected published	2007-12
prEN 12977-3	Thermal solar systems and components - Custom built systems - Part 3: Performance test methods for solar water heater stores	CEN inquiry Expected published	2007-02 2007-12
prCEN/TS 12977-4	Thermal solar systems and components - Custom built systems - Part 4: Performance test methods for solar combisystems	Being developed Expected published	2007-12
prCEN/TS 12977-5	Thermal solar systems and components - Custom built systems - Part 5: Performance test methods for control equipment	Being developed Expected published	2007-12

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European Solar Thermal Industry Federation, ESTIF

**Industry, test labs and certification bodies want:**  
to establish Keymark certification based on CEN/TS 12977-X from beginning of 2008

**Because:**  
Keymark is so well recognised in the sector.  
this is the fastest way to have the Keymark certification and to break down trade barriers to solar thermal systems (and assist EU policy on better environment and more secure energy supply)  
As soon as possible the CEN/TS's will be replaced by EN's

CCB February 2007