



## **Minutes of the informal CEN/TC312/WG1 meeting**

**Date:**

7<sup>th</sup> of March 2003

**Place:**

INETI, Lisbon

**Participants:**

Jan Erik Nielsen, DTI, Denmark  
Åsa Wahlström, SP, Sweden  
Peter Kovacs, SP, Sweden  
Amelie Veenstra, TNO, the Netherlands  
Hubert Fechner, Arsenal, Austria  
Christian Buchbauer, Arsenal, Austria  
Giacobbe Braccio, ENEA, Italy  
Sharma Vinood, ENEA, Italy  
Harald Druck, ITW, Germany  
Stephan Fischer, ITW, Germany  
Maria Carvalho, INETI, Portugal  
Andreas Bohren, SPF, Schweiz  
Christian Völlmin, SOLAR, Schweiz

### **1. Opening**

Jan Erik Nielsen opened the meeting and welcomed the participants. A discussion started on how to proceed with the meeting since the Convener of WG1 was not present. Åsa Wahlström, SP, was elected as chairman and secretary for the meeting.

### **2. Discussion about having informal meetings**

A long discussion took place about if it is a point of having informal meetings. There are so many points in the Standard that is already agreed on and making decisions about these points is really needed. Several members of WG1 pointed out that it is very important to proceed with the meeting since they have already spent major parts of their limited WG1-budgets in order to travel to Lisbon this time and to Rome on the last informal meeting. The Convener of WG1 has suggested in an email that the decisions can proceed with email correspondence. It was decided that the meeting should continue with discussing specific points that have been brought up in the Solar Keymark group. These discussions, conclusions and decisions should be documented by Åsa Wahlström and sent by her together with the notes from this meeting to the WG1 Convener (Emmanouil Mathioulakis, Demokritos, Greece) and to the TC312 secretary (Aristotelis Botzios, CRES, Greece) before the end of March 2003. Thereafter the Convener could make sure that decisions are taken through email correspondence.



### **3. Who is a member of TC312/WG1?**

Not all members had got the information that has been sent out by the WG1 convener and the TC312 secretary. According to the Solar Keymark website WG1 should have the following members: Mathioulakis, Fisher, Kovacs, Nielsen, Völlmin, Carvalho, Richard, Navarro, Lopez, Granado, Braccio, Meesters and Laughton. Several participants in the meeting were missing their name in the list even though they had announced their participation to TC312. Some of the names of the list should probably not be there. The members that are not on the list and would like to be there were recommended to inform TC312.

### **4. Discussions about specific points in the standard**

This point is documented in the attached Annex 1. It was decided that only points previously considered in the Solar Keymark group should be discussed. No new comments were considered since no participant in the meeting had prepared discussions for those comments.

### **5. Time Schedule for revision**

No participants in the meeting known if there have been a time schedule established for the revision of EN 12975. It was suggested that the WG2 time schedule should be adapted and that it should be recommended to the Convener to establish it. The following time schedule was recommended:

- First informal WG1 meeting, October 2002, Rome.
- Second informal WG1 meeting, March 2003, Lisbon.
- Based on this meeting a new draft should be written by the Convener and distributed by the WG1 members before the 1<sup>st</sup> of May, 2003.
- Comments from WG1 members should be returned by mail or email to the Convener before the 15<sup>th</sup> of June 2003.
- Deadline for the Convener to send the final draft to TC312 is the 15<sup>th</sup> of July, 2003.
- TC312 meeting should be hold in the beginning of October 2003.



**6. Formal meetings, list of members and time schedule for revision**

A discussion followed that it is a need for some clarifications from CEN about the revision process. Both because the participants in this meeting are convinced that the EN 12975 standard really needs a revision and also because they need to know how to budget for their very limited resources for this work. It was decided that Jan Erik Nielsen on behalf of ESTIF should write to CEN and get some clarifications in the following questions:

- Will there be any formal WG1 meetings?
- Which members are in WG1?
- What is the time schedule for the revision?

**7. End of meeting**

Åsa Wahlström thanked the participants for their contribution and the meeting was closed.

**Borås, Sweden 20<sup>th</sup> of March 2003**

*Notes taken by,*  
*Åsa Wahlström*  
*SP Swedish National Testing and Research Institute*



## Annex 1

### Discussions, conclusions and decisions at the informal TC312/WG 1 meeting in Lisbon

Specific points in the document “CEN/TC312/WG1 –EN 12975-1&2 Amendment –List if incoming comments (03/02/2003)” (Ref. CEN/TC312/WG 1 N243) distributed by the WG1 Convener were discussed. Hereafter this document is called N243. The Convener has given each point a status, where:

C = comments for which a consensus has been obtained in the Solar Keymark Project and in the CEN/TC312/WG1 Rome Meeting

NC = comments for which no consensus has been obtained until now

N = New comment

#### Rain penetration test (En 12975 –1, 5.3.7 and EN 12975 –2, 5.7)

In the Solar Keymark group three new suggestions for the Rain Penetration test has been established as internal papers. Specific criteria from these internal papers are mentioned in several points in N243. However it was decided that it should be recommended that the whole new suggestions should be included in the standard. In this way the carefully thought out wordings for each suggestion would also be used for improvement of the standard.

It has been concluded that the pass criteria for the Rain Penetration test, EN 12975 –1, 5.3.7, should be changed for the check by weighing the collector and by measurement of humidity N243 Point 5 and 6. In order to be consistent also the pass criteria for the measurement of the condensation level should be changed. The informal WG1 meeting decided that EN 12975 –1, 5.3.7, c, should be changed to “the measured condensation level shall be less than 10 % of the transparent cover”.

*All points below are considering the N243 document points stated below comments to EN 12975-2 standard.*

#### N243 Point 4; Inconsistence between 12975-1 and 12975-2

This point is noted NC in N243. However, this point has been examined and discussed by the Solar Keymark group. Excerpt from the minutes of the Solar Keymark Rome meeting:

*Inconsistence between 12975-1 and 12975-2. Some requirements are subjective since description of test methods are missing. For example the requirement of “no sharp edges” has no test method.*

*AAW informed that “no sharp edges” is the only requirement that she can find that has no test method. She also informed that Hoang Liauw has checked with TC if it is a formal problem that the EN 12975-1 has requirements that have no method for testing in*



*EN 12975-2. His answer is: “ There is no rule that a requirement in an European Standard should always refer to a test method in another accompanying European standard. It may well refer to an ISO or other reference document.”*

*Action: It was concluded that is not difficult to identify “ sharp edges ” and the problem need no further actions.*

The informal WG1 meeting decided to recommend hat this point will not need any further discussions and should be deleted from N243.

### **N243 Point 13; Spraying of the collector in 5.7.2.1**

This point is noted C in N243. That “sprayed on all sides from above perpendicular to the horizontal” should be changed to “sprayed on all sides”. However, it should not be changed to “sprayed on all sides” because this means that the collector also must be sprayed on the backside. This will only complicate the testing, with increased costs, without any improvements of the results. It is not raining on the back for a mounted collector. The informal WG1 meeting decided to recommend that “sprayed on all sides from above perpendicular to the horizontal” should be changed to “sprayed on exposed sides”.

### **N243 Point 18; Special consideration for sensitive material in the collector backs, 5.7.2.2**

This point is noted C in N243. It recommends that special measures must be taken during the rain penetration spraying in order to not damage sensitive material. However, this point is only relevant if the spraying must be done on all sides. Since this should be changed according to the above previous point (N243, point 13) this point is not necessary anymore. The informal WG1 meeting decided to recommend hat this point will not need any further discussions and should be deleted from N243.

### **N243 Point 22; Impact resistance test, 5.10.**

This point is noted NC in N243. The impact resistance test includes a non-realistic test. Although it is an optional test, this does give confusion on the market in practice. Also, in practice there was never reason to doubt the impact resistance of collectors. Solar Keymark has previous discussed if it would be better to delete this clause in the standard. The following discussions concluded that a test description, even if it is informal, is needed in the standard as several laboratories are actually using this test. It is important that those laboratories are using the same procedures. However, the test procedures needs improvements and a comparison on how these test are made for the window industry is needed. Hubert Fechner and Amelie Veenstra will investigate and give suggestions of improvements to the Convener. Continuing discussion concluded that it might be better to put the test as an informative Annex to clearly show that the test is optional as soon as the needed improvements has been made.



**N243 Point 24; Tilt angel fixed, 6.1.1.3.**

This point is noted NC in N243 and has two suggestions for solutions. The Solar Keymark group has previously made one of the suggestions. Excerpt from notes from Solar Keymark Rome meeting:

*Tilt angel of the collector*

*Problem: The tilt angel of the collector should be mounted in 45° according to clause 6.1.1.3. This will make comparison of measurements at different laboratories difficult since the incident angel will vary with the latitude. Action: It was decided that it should be recommended in the “Solar Keymark input to WG1” that the same specifications as in Clause 6.1.4.3 should be added in the beginning of 6.1.1.3. The first two sentences on page 35: “ The angel of incidence of direct solar radiation at the collector aperture shall be in the range in which the incident angle modifier for the collector varies by no more than 2 % from its value at normal incidence. For single glazed flat plate collectors, this condition will usually be satisfied if the angle of incident of direct solar radiation at the collector aperture is less than 20°.” Thereafter, should the word “shall” be changed to “should” in the first sentence in 6.1.1.3. ( “ .....the collector should be mounted such ... ”)*

The other suggestion is that it is not necessarily to specify the tilt angle conditions since it will be specified by the conditions for the angle of incident of direct solar radiation declared in 6.1.4.3. The informal WG1 meeting decided to recommend hat the first proposal should be used together with a change for the first sentence in 6.1.1.3 to “the tilt angel of the collector should be mounted in 45.°+/- 10 °”. The mounted tilt angel should also be stated in the test report.

**N243 Point 50; Specification of surrounding air speed, 6.3.4.3.**

This point is noted NC in N243. The question is if the surrounding air speed should be greater than 1 m/s and less than 4 m/s or only less than 4 m/s. The discussion continued with that it might be better to have the speed specified to 4 +/- 1 m/s or 3 +/- 1 m/s as in the SS test. Peter Kovacs and Stephan Fischer will investigate this further and report the result with recommendations to the Convener.

**N243 Point 54; Remove the requirement of Gd/G>0.5, 6.3.4.3.**

This point is noted NC in N243. The discussions concluded that it could be removed and still be competitive with SS. The informal WG1 meeting decided to recommend hat this point will be considered as C and do not need any further discussions.



**N243 Point 60; The test report has to be brought in accordance with the requirements of EN ISO 17025, Annex D.**

This point is noted C in N243, but the recommendation for changes is only “Modify Annex D”. It is a need for a further explanation on how the Annex should be modified in order to be in accordance with EN ISO 17025. Stephan Fischer will investigate this further and report the result with recommendations to the Convener.

**N243 Point 62; Addition of an informative Annex for calculating the uncertainty.**

This point is noted C in N243. The discussions about this concluded that the Document provided by “Demokritos” needs further work as stated during the Solar Keymark meeting on the 5<sup>th</sup> of March. Further input are requested:

- Input by email to Demokritos from other laboratories
- More direct recommendations on how to do, step by step, with figures. Based on the results from the uncertainty Round Robin made by Stephan Fischer
- Input by Pierre Richard about the uncertainty at steady state conditions.

Another discussion was if this document really is needed in the standard since it only explains things that already are in the standards and in other standards. However the explanations are made in a much more comprehensive and understandable way. Maybe it should be a Solar Keymark document instead.

**N243 Point 11; Need of an indoor exposure test, 5.4.**

This point is noted C in N243. Jan Erik Nielsen will apply for financing to developing such a test within the EC sixth framework program.

**N243 Point 56; Other method than MLR, 6.3.4.8.1.**

This point is noted C input from ITW in N243. Stephan Fischer will investigate this further and report the result with recommendations to the Convener.

**N243 Point 59; For how long and for how many datapoints should the value exceed +/- 0.005 K/s, 6.3.5.2.**

This point is noted further discussions in N243. Stephan Fischer will investigate this further and report the result with recommendation to the Convener.



**N243 Point 55; Other method than MLR, 6.3.4.8.1.**

This point is noted C input from ITW in N243. Stephan Fischer will investigate this further and report the result with recommendation to the Convener.

**Other inputs: Annex L needs an equation instead of a table.**

Stephan Fischer will provide the equation to the Convener.

**Other inputs: Change of test sequence, 5.1.**

The discussions about this made on the Solar Keymark meeting on the 5<sup>th</sup> of March will be summarised by Åsa Wahlström and sent in the third version of “Internal procedure for Solar Keymark WP1.a and input to CEN/TC 312” to the Convener.