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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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DG ENTREPRISE & INDUSTRY 15

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Mr. P. Ortún
European Commission
DG ENTR/13 "Standardization"
B 100 04/020
B-1049 BRUSSELS

Ref. STDPOL/011

Subject: Answer to mandate M/369

2007-07-30

Dear Mr. Ortún,

Please find herewith the answer of CEN/TC 312 "Thermal solar systems and components" to the mandate M/369 "Amendment to mandate M/129 to CEN/CENELEC concerning the execution of standardization work for harmonized standards on space heating appliances and energy capturing appliances", for your acceptance.

As agreed with the Commission Services, you will also find attached the comments of Mr. Joël Cuche, CEN Consultant, on the answer of CEN/TC 312.

Yours sincerely,

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Senior Manager
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Wezembeek, the 17th December 2006

CEN Management Centre

Attention Mr da Costa

Subject : Answer to the Mandate M 369 by TC 312

Dea Amilcar ,

I have reviewed carefully the document dated 25th August 2006 covering the TC312 answer to the Mandate M 369 (an amendment to M129).

I have noted that some characteristics applicable for heating appliances are considered by TC312 not relevant for the solar thermal collectors.
Having said that, I believe that the document is acceptable and may be submitted to the Commission's approval.

Sincerely yours

J.CUCHE

MANDATE ON:

"Space heating appliance and energy capturing appliances"

M369 (amendment to M129)

REPLY FROM CEN TC312 Solar heating systems and components

2nd draft, 25-08-2006, Jan Erik Nielsen, convenor of TC312/WG4 and E. Mathioulakis, convenor of TC312/WG1

0. General comments from TC312 related to the answer to the mandate

0.1) Requests for clarification on the scope of the mandate concerning the products and allocation of work:

As seen in the resolution 3 of the CEN/TC 312 meeting of April 2006 quoted below (full text in Annex II):

- CENTC 312 (as well as the European Solar Thermal Industry Federation, ESTIF) **supports CE-marking of solar thermal collectors**
- CENTC 312 (as well as the European Solar Thermal Industry Federation, ESTIF) understands that the Mandate M369 covers only the energy capturing appliances (in this case the solar thermal collectors) and does not cover other solar thermal systems and components which are covered by the directive 92/75 (Energy labelling of household appliances) and the Mandate M324

0.2) Requests for clarification on the intended use:

None.

0.3) Information on products under the scope of the mandate which are the subject of other CEN/TCs - Information on the organisation of the work between TCs:

The standards from TC312 will make normative reference to:
EN 1991 (all parts) Eurocode 1: Actions on structures

If necessary the standards will make normative references to standards from CEN TC127 on reaction and resistance to fire

0.4) Information on issues concerning the scope and intended uses included in the mandate, for which no work has yet been started in the TC, or for which the TC cannot provide a standard:

TC312 has already developed standards for solar thermal collectors:

- EN 12975-1: Thermal solar systems and components – Solar collectors – Part 1: General requirements
- EN 12975-2 Thermal solar systems and components – Solar collectors – Part 2: Test methods

The harmonised standard should be based on these existing standards.

TC312 can develop harmonised standard only if funding of the necessary work is found (see resolution 3 in Annex II).

0.5) Specific requests for additions to the mandate of products, materials, intended uses, essential characteristics, etc.:

None.

0.6) Liaison with other TCs for certain horizontal tests - Information on the organisation of the work between the TCs:

If necessary the standard will make normative reference to standards from CEN TC127 on reaction and resistance to fire. TC312 will liaise with TC127 to decide on this.

0.7) Other issues which the TC considers necessary for the comprehension of the answer to the mandate:

- TC312 does not find "Electrical safety" (E R 4b) relevant for collectors.
- TC312 does not find "Sound level" (E R 5) relevant for collectors.
- TC312 does not find "Energy efficiency" (E R 6b) relevant for collectors – the energy performance characteristic is the "Thermal output" (E Ra). Or in other words: The "Energy efficiency" is already included in the "Thermal output".
- TC312 does not find "Cleanability" (E R 6d) relevant for collectors.

A.1. Harmonised product standard for SOLAR THERMAL COLLECTORS

A.1.1 Title :

Thermal solar systems and components – Solar collectors

- o Part 1: General requirements

A.1.2 Scope :

The standard specifies requirements on durability (including mechanical strength), reliability and safety for liquid heating solar collectors.

The standard specifies the requirements to be fulfilled in order to demonstrate that liquid heating solar collectors comply with the existing regulations and in particular with the Mandate 369.

The standard refers to the supporting standard EN12975-2 which specifies the test procedures to be used.

The standard is not applicable to those collectors in which the thermal storage unit is an integral part of the collector to such an extent that the collection process cannot be separated from the storage process for the purpose of making measurements of these two processes. Such products are considered as systems and are covered by EN 12976 (group: Factory made systems) and Mandate 324.

A.1.3 Intended use :

Heat production (energy capturing appliance).

A.1.4 The essential characteristics according to the mandate (and according to the opinion of TC312) which will be dealt with in the above standard will be :

1. Mechanical resistance: Included in existing EN12975
2. Fire safety (if relevant): To be determined in co-operation with TC127
3. Release of dangerous substances (if relevant): To be checked – most probably not relevant
- 4a. Surface temperature (if relevant): To be checked. Collectors are actually associated with the transportation of heat, and should then be excepted?
- 4b. Electrical safety (not relevant as collectors has no electrical parts)
- 4c. Maximum operating pressure and pressure related safety: Included in existing EN12975 – to be checked against PED (97/23/EC) – some uncertainty observed concerning the way collectors are interpreted in the PED – to be clarified
5. Sound level: Not relevant
- 6a. Thermal output: Included in existing EN12975. Test methods on thermal output / collector efficiency included in existing EN12975 - requirements on thermal output / collector efficiency are not foreseen
- 6b. Energy efficiency: included in "Thermal output" above
- 6c. Thermal storage capacity: Included in existing EN12975
- 6d. Cleanability: Not relevant as this characteristic is not related to the collector it self, but to the installation/accessibility of the collector

A.2 Supporting standards

Part 2 of EN 12975 specifies test methods for validating the durability, reliability and safety requirements for liquid heating collectors as specified in prEN 12975-1. This part also includes test methods for the thermal performance characterisation for liquid heating collectors:

- a) Glazed and unglazed solar collectors under steady state conditions
- b) Glazed and unglazed solar collectors under quasi-dynamic conditions

For glazed and unglazed collectors a) or b) can be used – the two test methods gives the same results within required uncertainty according to round robin tests performed as described in [S. Ficher, H. Druck, W. Heiderman, H. Muller-Steinhagen, "Round-Robin test of a solar thermal collector", estec2005; H. Albrecht, "Evaluation of thermal performance measurements on 6 high efficient solar collectors, including comparison between steady-state and fully dynamic measurement parameters", Universitat Stuttgart, Matr.-Nr. 1297676, 1991].

A.2.1 Mechanical resistance

EN 1991 (all parts) Eurocode 1: Actions on structures – *specific parts maybe to be specified?*

A.2.2 Release of dangerous substances

Council Directive 76/769/EEC with amendments and updates *to be consulted*

A.2.3 Fire safety

To be discussed with TC 127

A.2.4 Maximum operating pressure and pressure related safety

To be checked against Council Directive 97/23/EC (PED) and related standards

A.3 Additional information, comments and remarks

A.3.1 Deviations from a performance approach in the product standard:

None.

A.3.2 Requests for clarification on the scope of the mandate concerning the product in A above:

It is only intended to make harmonised standards related to the Council Directive 89/106/EEC (CPD) for solar thermal collectors.

Harmonised standards for solar systems and solar water tanks should be related to Council Directive 92/75/EEC (Energy labelling) - see Mandate 324 concerning "Water-heaters, hot water storage appliances and water heating systems"

A.3.3 Requests for clarification on the intended uses concerning the product in A above:

None.

A.3.4 Requests for clarification on the essential characteristics for the intended uses included in the mandate concerning the product under A above:

See section A.2 above.

A.3.5 Information on essential characteristics required by the mandate concerning the product in A above, for which no work has yet been started in the TC, or for which the TC cannot provide a standard:

None.

A.3.6 Explanation of the state of the art concerning durability issues:

Relevant durability issues are already included in the existing EN 12975

A.3.7 Information on other Directives under which the product in A above falls, and compliance conditions:

Requirements in and scope of Council Directive 97/23/EC (PED) to be checked

A.3.8 Specific requests for additions to the mandate of materials, intended uses or essential characteristics concerning the product in A above:

None.

A.3.9 Other issues which the TC considers necessary for comprehension of the answer to the mandate:

The harmonised standards to be developed will contain the "No performance determined" option, where relevant, e.g. for resistance to fire where no requirement exists.

According to resolution 3 c) i and ii TC312 states that CE-marking shall go along with the existing voluntary certification mark Solar Keymark, to be combined in such a way that:

- all tests already carried out for Solar Keymark shall be accepted for CE-marking,
- and Solar Keymark will show the extra value of third-party evaluation of conformity,

A clause dealing with the evaluation of conformity will be included in part 1 of EN 12975.

ANNEX I: Preliminary work programme agreed upon by TC312

A preliminary work programme was agreed upon at the TC312 meeting April 2006, see resolution 5 in Annex II

The estimated time frame for this work is 2-3 years.

A rough estimate of the budget needed is 200,000-300,000 €.

To start the work funding must be available, see resolution 3 d) Annex II

ANNEX II: Relevant resolutions of CEN/TC 312 meeting – April 2006

"RESOLUTION 3, CEN/TC 312 – GRAN CANARIA, SPAIN, 2006-04-03 & 04:

CEN/TC 312 supports the position of ESTIF on harmonised standards and CE-marking of energy capturing devices (M/369). CEN/TC 312 resolves to support the development of making harmonised standards for solar thermal collectors linked to the Construction Product Directive (Council Directive 89/106/EEC). This is on condition that:

- a) the harmonised standards shall be based on the existing EN12975-1 & 2,
- b) and any additional requirements and test procedures shall only be included if strictly unavoidable,
- c) and CE-marking along with the existing voluntary certification mark Solar Keymark, can be combined in such a way that:
 - i. all tests already carried out for Solar Keymark shall be accepted for CE-marking,
 - ii. and Solar Keymark will show the extra value of third-party evaluation of conformity,
- d) and funding of necessary work is found (the main part of this funding is expected to be covered by CEN and/or EC).

CEN/TC 312 disagrees with CE-marking of solar water tanks and solar thermal systems linked to the Construction Product Directive. These products will be covered by harmonised standards linked to the Council Directive 92/75/EEC (Energy Labelling of Household Appliances - Mandate M/324)."

RESOLUTION 5, CEN/TC 312 – GRAN CANARIA, SPAIN, 2006-04-03 & 04

CEN/TC 312 resolves to include the following items into the work programme of M/369:

- a) review the national legal requirements and requirements of national/regional incentive schemes for:
 - i. mechanical resistance to structural loads,
 - ii. fire safety,
 - iii. release of dangerous substances.
- b) discuss the national requirements found from the review above, and bring them as much as possible in-line with each other – trying to minimise additional requirements on top of existing requirements in EN 12975-1.
- c) establish new or additional test methods as required
- d) adapt the existing and new EN (draft) standards to the requirements of harmonization.
- e) proceed with CEN Enquiry
- f) proceed to Final Vote and publication.
- g) define the requirements for the recognition process necessary for test labs.
- h) implement new test methods at test labs