GNB-CPD **SG19**	**Guidance from the Group of Notified Bodies for the Construction Products Directive 89/106/EEC**	**NB-CPD/SG19/11/085** Issued: 19 October 2011 **APPROVED - GUIDANCE**

GNB-CPD position paper from SG19 - EN 14303 to EN 14309, EN 14313 and EN 14314

ITT of factory made thermal insulation products for building equipment and industrial installations

General scope, limitations and aim of this guidance for notified bodies

This position paper contains guidance for notified bodies (NBs) involved in the attestation of conformity of factory made thermal insulation products for building equipment and industrial installations according to EN 14303 to EN 14309, EN 14313 and EN 14314. The purpose is to help NBs work equivalently and come to common judgments. This guidance contains informative material (which NBs should or may follow) and/or normative guidance (which NBs shall follow or at least work equivalently to as circumstances demand).

The primary document for NBs is the edition of the relevant harmonized standard that is currently cited in the Official Journal of the EU to which the manufacturer works. This guidance is thought necessary to provide clarity and completeness for NBs so that they can work equivalently. It **supplements and makes practical for NBs** the harmonized standards EN 14303 to EN 14309, EN 14313 and EN 14314, approved Advisory Group guidance, and Standing Committee guidance in the form of GPs, which also apply - unless otherwise explicitly stated in this guidance. This position paper should **not** contradict nor extend the scope of the work and role of a NB, nor impose additional burdens on the manufacturer, beyond those laid down in the CPD and EN 14303 to EN 14309, EN 14313 and EN 14314.

This guidance should be considered valid until the relevant standards are amended to include the guidance (as thought fit by the CEN/TC); or until guidance from Commission, SCC or AG has changed on relevant matters. Whereupon, the paper should be considered for withdrawal/revision and be replaced by new guidance as necessary.

This position paper was considered approved by SG19 on 27 May 2011 and by Advisory Group on 15 October 2011.

1 General

Initial type testing (ITT) (complemented by factory production control procedures) is carried out in order to demonstrate conformity with the requirements under the CPD.

This document gives guidance on the procedures related to initial type testing under system 1 for the harmonized product standards EN 14303 to EN 14309, EN 14313 and EN 14314.

In System 3, the tasks of the certification body are undertaken by the manufacturer.

2 Grouping

In the TC 88 standards, the conformity of any product is defined property by property. The manufacturer is allowed to group the products property by property. This implies that conformity is documented group by group for the properties concerned.

For product families, which are manufactured for both building applications and for building equipment/industrial applications (BEI), common grouping may be done for common properties provided that the test methods are identical.

Grouping is the responsibility of the manufacturer. The certification body does not have to approve the grouping. The decisions on grouping are left up to the manufacturer.

If inclusion of new products in already existing and documented groups (of building insulation) causes any risk of nonconformity, new ITT shall be made. Therefore, new products may not be included in a group without the consent of the certification body.

3 Selection for ITT

The task of the certification body is to perform selection and sampling for ITT.

In the selection and sampling, the certification body shall “challenge” the grouping by selecting the products/types which are most likely not to pass the ITT. The certification body should use its skills to uncover and document any nonconformity. If a thorough examination of the worst case(s) does not reveal any non-conformity the product group concerned is deemed to conform.

3.1 Identification of worst case or worst cases

To identify the worst case within a product group is a complex matter influenced by many different production parameters: e.g. density, organic content, thickness etc. Thus, the certification body is required to have knowledge of the products in question. Declared characteristics are normally influenced by various parameters, and the worst case with regard to one characteristic may not be the worst case with regard to others. The certification body should for each declared characteristic consider which parameters to take into account in order to identify the worst case within each product group.

In some cases it is not possible to determine a single worst case. In these cases it may be necessary to test two or more "suspected" worst cases. The manufacturer is obliged to establish and maintain correlations between declared performance characteristics and the relevant production parameters, c.f. EN 13172, clause 5.4.5.2. These correlations may be helpful in determining the worst case(s).

In AoC system 3, determination of the worst case(s) is left to the manufacturer who should be able to document how the worst cases are determined.

4 Obligatory / voluntary properties

Properties mentioned in the harmonized standards under clause 4.2 ‘For all applications’ are “obligatory”; they must be fulfilled and documented in order to comply with the standard.

Properties mentioned in the harmonized standards under clause 4.3 are only for “specific applications”. Declaring these properties is an option for the manufacturer, not an obligation.

5 Number of test results

The standard ITT procedure for TC 88 products is that tests shall be carried out on samples from four different production dates – four tests in total. For some properties, the number of test results required for ITT is limited to one. In these cases (e.g. reaction to fire for flat products) a combination of specimens from one or more of the four production dates are tested. The combination is used in order to cover the worst case. In some cases it would for instance be necessary to test more than one thickness in order to cover the worst case. In other cases it would be sufficient to test just one thickness.

6 Who shall test what?

For CE marking, the ITT task of the third party laboratory is limited to following characteristics:

- Reaction to fire;
- Thermal resistance (thermal conductivity; dimensions and tolerances);
- Release of dangerous substances (no test methods available yet);
- Compressive strength,
- Water permeability (if relevant) and;
- Release of corrosive substances (trace quantities of water soluble ions and the pH-value).

All other characteristics are tested by (or on behalf of) the manufacturer.

For voluntary certification according to EN 13172 annex A, all declared properties shall be ITT-tested by the third party.

In all the harmonized standards, when a certification body is involved, the third party laboratories and inspection bodies are appointed by, and act on behalf of the certification body (under system 1 and voluntary certification).

7 All applications – Clause 4.2

7.1 Thermal conductivity

Flat products:

- One test result using specimens from one or more of the four different production dates. The standard does not define how to select the worst case to test.

Cylindrical products:

- Four test results are required. The tests shall be performed at minimum and maximum thickness and two different internal diameters, e.g. 48 and 194 mm (four tests in total).

- A description of how to choose diameters and thicknesses, should be included in the test report. (some flexibility in choice is needed)

Common for both flat and cylindrical products:

- Each test result is understood as the results of a series of measurements covering the temperature range – not just a single value.
- The test shall be performed at the number of temperature levels necessary to cover the declared service temperature range (c.f. EN 13787).
- The measured lambda value at each temperature shall be better than or equal to the declared value (below the curve).
- The temperature curve shall cover the service temperature range. This means that the maximum temperature on the hot side of the lambda apparatus shall be higher than or equal to the declared maximum service temperature, and the minimum temperature on the cold side shall be lower than or equal to the minimum service temperature.
- When measuring high temperature lambda, dimensional changes at high temperatures must be taken into account.

7.2 Dimensions and tolerances

- Four test results using specimens from the four different production dates are required. The standard does not define how to estimate the worst case to test.
- For flat products, grouping may be done together with building insulation products. If inclusion of new products in existing groups does not jeopardise the conformity of the group it is not necessary to carry out new ITT.

7.3 Dimensional stability

- Dimensional stability is only tested on flat products.
- If maximum service temperature is declared, it is not necessary to test dimensional stability.
- Four test results using specimens from four different production dates are required.

7.4 Reaction to fire

- One test result using specimens from one or more of the four different production dates is required.
- The standard does not define how to estimate the worst case(s) to test. Therefore, general expertise in fire testing is required.
- Mounting and fixing is described in the relevant product standard and EN 15715.

8 Specific applications - Clause 4.3

8.1 Maximum service temperature

Flat products:

- One test result using specimens from one or more of the four different production dates. The standard does not define how to estimate the worst case to test.

Cylindrical products:

- One test result using specimens from the four different production dates. However, the tests shall be performed at two different inner diameters: one low and one high.

8.2 Compressive stress / compressive strength

- Compressive stress / compressive strength are only tested on flat products.
- Four test results using specimens from the four different production dates are required.

8.3 Water absorption

Flat products:

- Four test results are required.
- The standard does not define how to estimate the worst case to test.

Cylindrical products:

- Four test results are required.
- The standard does not define how to estimate the worst case to test.

8.4 Water vapour transmission

- Four test results are required.
- The standard does not define how to estimate the worst case to test.

8.5 Trace quantities of water soluble ions and the pH-value

- Four test results are required.
- Test shall only be done with regard to the type(s) of ions for which a level is declared.

8.6 Sound absorption

- Four test results are required.