



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

Mr. N. Anselmann
DG Entreprise SC 15 2/147
Rue de la Science 15
1040 BRUSSELS

Ref: HP/CORR/124/adc

2004-02-13

Subject: M/132 - Amendment to M/104

Dear Mr. Anselmann,

With reference to the mandate M/132 'Addenda to mandate on structural bearings', under the Construction Products Directive, please find herewith the response of CEN/TC 340 'Anti-seismic devices' to the mandate.

As agreed with the Commission Services, you will also find attached the comments of Mr. Joel Cuche, Consultant, on the answer of CEN/TC 340.

Yours sincerely,

Hugues Plissart
Director
Standards Development

c.c. Mr. V. Leoz Arguëlles
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Wezembeek, the 10th March 2003

CEN/MC
Attention Mr Amilcar Da Costa
Rue de Stassart 36
B 1050 Brussels
Belgium

Subject: Revised response from TC340 to Commission Mandate M104
amended by Mandate M132.

Dear Amilcar,

With reference to the document CEN/TC340 N 40 from TC340, I have examined the response closely and, excepting minor comments listed below, I consider that it is in line with the requirements of the mandate. Informal assessment had already been made in 2002.

At clause 0.1, we noted that the product 'Anti-Seismic devices' is considered as a wider concept and the anti-seismic structural bearings are considered as part of anti-seismic devices. It is probably necessary for the Commission Services to check whether such devices are not yet covered by other European Technical Approvals (EOTA).

For the clause A1 (ii), it has been agreed with TC340 to consider a range of temperature for the device.

Other than these remarks, I confirm that the revised answer conforms to the requirements of the mandate.

Yours sincerely

J.Cuche

MANDATE M/132 "AMENDMENT OF M/104"

ANSWER PREPARED BY CEN/TC 340 "ANTI-SEISMIC DEVICES"

0. GENERAL COMMENTS OF THE CEN/TC RELATED TO THE ANSWER TO THE MANDATE

1. Requests for clarification on the scope of the mandate concerning the product and allocation of work:

(NOTE: If necessary, the TCs shall request here clarification on the products and materials included in the scope of the mandate)

Anti-seismic devices are not necessarily structural bearings (the latter is only one type). Therefore, the addition to Annex 1 of M/104 as specified by M/132 (Product for consideration: Structural bearing – Anti-seismic devices) is not correct.

Moreover, the definition of anti-seismic device given by the addition to Annex 1 of M/104 as specified by M/132 should be corrected to "devices that are provided in structures, aiming at reducing their response due to the seismic action".

2. Request for clarification on the intended use:

(NOTE: If necessary, the TCs shall request here clarification on the products and materials included in the scope of the mandate)

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 the TCs.

4. Information on issues concerning the scope and intended use included in the mandate, for which no work has yet been started in the TC, or for which the TC cannot provide a standard.

(NOTE: The TCs shall give here information on the feasibility of the European standard with a timetable. If a European standard cannot be elaborated, the TC shall provide detailed justification)

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

(NOTE: The TCs will provide the necessary information with explanations and justification)

6. Liaison with other TCs for certain horizontal tests - Information on the organisation of the work between the TCs.

In order to grant a proper co-ordination of the standardization works, formal liaisons have been established with the following technical bodies:

- CEN/TC 167 Structural bearings
- CEN/TC 250/SC 8 Eurocode 8: Earthquake resistance design of structures

7. Other issues which the TC considers necessary for the comprehension of the answer to the mandate.

CEN/TC 340 has set up a programme of work consisting in drafting one single standard ("performance oriented") with the following list of contents:

Foreword

1. Scope
2. Normative references
3. Terms and definitions, symbols and abbreviations
4. General design rules and requirements
5. Rigid connection devices (permanent devices, temporary devices)
6. Displacement dependent devices (linear devices, non-linear devices)
7. Velocity dependent devices

8. Combination of functions

9. Isolators

10. Evaluation of conformity

Annex ZA (informative) Provisions for the CE marking of anti-seismic devices under the EU Construction Products Directive

A.1 Harmonized product standards: Availability:

WI 0034000x (under preparation by CEN/TC 340)

2005-03

(i) **Title:** **Anti-seismic devices**

(ii) **Scope:** This European standard covers the design of devices that are provided in structures, aiming at reducing their response due to the seismic action. It specifies general design rules, material characteristics, manufacturing and testing requirements, as well as acceptance, installation and maintenance criteria

(iii) **Int. uses:** Use in structures aiming at reducing their response due to the seismic action.

(iv) **The essential characteristics according to the mandate which will be dealt with in the above standard will be:**

1. Load bearing capacity (compression and tension)
2. Resistance to seismic loads/shock absorption
3. Shear modulus
4. Rotation capability
5. Friction coefficient
6. Horizontal distortion capability

(v) **Durability aspects:**

7. Durability (e.g. against repeated loading, temperature, corrosion, ozone, chemicals,....,as relevant)

(vi) **Other aspects**

The harmonised product standard will also contain:

- the classification system for the characteristic:
none
as required by the Annex 3 of the mandate (or a reference to the EN containing this classification)
- references to other Directives and compliance conditions applying to the product
- a reference to the Commission's Decision on attestation of conformity
- clauses on evaluation on conformity (including Factory Production Control and supporting standards)
- guidance on the characteristics to be stated in the labelling accompanying the CE marking and on the way of expressing the determined values of these characteristics.

A.2 Supporting standards

The following work items, prENs or ENs are proposed as test or calculation methods for the determination of the essential characteristics required by the mandate and indicated in clause A.1 (iv) and A.1. (v) above:

(NOTE 1: These supporting standards are the standards which are necessary to support the harmonised product standard. In some cases reference may need to be made to other product standards where specifications and test methods are found. This applies in particular to the durability aspects which may be material specific).

(NOTE 2: Where the supporting standards also include other issues than those of interest, then the relevant clauses must be indicated).

1. Load bearing capacity (compression and tension)

WI 0034000x
Anti-seismic devices

2005-03
clauses 5, 6, 7, 9

2. Resistance to seismic loads/shock absorption

WI 0034000x
Anti-seismic devices

2005-03
clauses 5, 6, 7, 9

3. Shear modulus

WI 0034000x
Anti-seismic devices

2005-03
clauses 5, 6, 7, 9

<u>4. Rotation capability</u>	
WI 0034000x	2005-03
Anti-seismic devices	clauses 6, 7, 9
<u>5. Friction coefficient</u>	
WI 0034000x	2005-03
Anti-seismic devices	clauses 6, 7, 9
<u>6. Horizontal distortion capability</u>	
WI 0034000x	2005-03
Anti-seismic devices	clause 9
<u>7. Durability (e.g. against repeated loading, temperature, corrosion, ozone, chemicals,....as relevant)</u>	
WI 0034000x	2005-03
Anti-seismic devices	clauses 5, 6, 7, 9

A.3 Additional information, comments and remarks

(concerning only the specific product under A.1 in this case)

- 1. Deviations from a performance approach in the product standard mentioned in the A above and/or in supporting standards.**
(NOTE: The TCs shall give here information on aspects required by the mandate where a performance approach cannot be followed and provide for each a detailed justification)
- 2. Requests for clarification on the scope of the mandate concerning the product under A.**
(NOTE: If necessary, the TCs shall request here clarification on the products and materials included in the scope of the mandate)
- 3. Requests for clarification on the intended uses concerning the product under A.**
(NOTE: If necessary, the TCs shall request here clarification on the intended uses included in the scope of the mandate)
- 4. Requests for clarification on the essential characteristics for the intended use included in the mandate concerning the product under A.**
(NOTE: If necessary, the TCs shall request here clarification on the essential characteristics of the products and the intended uses included in the mandate)

Considering the current state of the art in the field of the anti-seismic engineering, the following table shows the relationship between the Essential Characteristics given by the mandate and the requirements dealt with in the candidate harmonised EN (hEN) on anti-seismic devices. An indication for which type of device each requirement is relevant is also given.

Essential Characteristic according to M/132	Requirements according to hEN	Type of anti-seismic device
Load bearing capacity (compression and tension)	Vertical load bearing capacity	Isolators
	Axial load transmission capability	Rigid connection devices Linear devices Non-linear devices Viscous dampers
Resistance to seismic loads/shock absorption	Survivability against repeated load cycling	All
Shear modulus	Stiffness	All
Rotation capability	Re-centring capability	Linear devices Viscous dampers (<i>in some cases</i>) Isolators
Friction coefficient	Energy dissipation capability	Non-linear devices Viscous dampers Isolators
Horizontal distortion capability	Lateral flexibility	Isolators
Durability (e.g. against repeated loading, temperature, corrosion, ozone, chemicals,...,as relevant)	Durability against ageing, temperature, corrosion	All

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

(NOTE: The TCs shall give here relevant information on the feasibility of the standard with a timetable. If a standard cannot be elaborated, the TC shall provide detailed justification)

6. Explanation of the state of the art concerning durability issues.

(NOTE: The TCs will provide here information on issues related to durability requirements included in the mandate. They will refer to the state of the art on durability testing and of the feasibility of standards to cover the requirements of the mandate, giving explanations and justifications for their proposals)

7. Information on other Directives under which the product concerning the product under A falls and compliance conditions.

(NOTE: The TCs will here provide information on problems with these other Directives, if any)

8. Specific requests for additions to the mandate of materials, intended uses and essential characteristics, etc. concerning the product under A.

(NOTE: The TCs will provide the necessary information with explanations and justifications)

9. Other issues which the TC considers necessary for comprehension of the answer to the mandate, concerning the product under A.