



CONSTRUCT 95/139 A Rev. 1

MANDATE TO EOTA
CONCERNING THE EXECUTION OF HARMONISATION WORK
FOR AN ETA GUIDELINE ON

STRUCTURAL SEALANT GLAZING SYSTEMS (CURTAIN WALLING)

RELATED TO THE FOLLOWING END USES

04/33 **EXTERNAL WALLS (INCLUDING CLADDING), INTERNAL WALLS AND PARTITIONS**

07/33 **ROOFS**

FOREWORD

This mandate is issued by the Commission to EOTA within the context of the Council Directive 89/106/EEC of December 21, 1988 concerning construction products, hereafter referred to as "the Directive" and the Commission Decision 94/23/EC of 17 January 1994 on common procedural rules for European technical approval.

One of the aims of the Directive being the removal of technical barriers to trade in the construction field, in so far as they cannot be removed by means of mutual recognition among Member States, it seems appropriate that mandates cover, at least during a first phase of the mandating programme, construction products likely to be subject to technical barriers to trade.

This mandate covers the field of products or families of products that are considered innovative and for which there is neither a harmonised standard, nor a recognised national standard, nor a mandate for a harmonised standard and for which the Commission, after consulting the Standing Committee on Construction, considers that a harmonised standards cannot, or not yet, be elaborated; or when harmonised standards or recognised national standards exist, the products differ significantly from them.

This mandate intends to lay down provisions for the development and the quality of the ETA guidelines in order, on the one hand, to make "approximation" of national laws, regulations and administrative provisions (hereafter referred to as "regulations") possible and, on the other hand, to allow products conforming to them to be presumed to be fit for their intended use, as defined in the Directive.

In this respect, this mandate takes account of the basic principles prevailing in the regulations of Member States, particularly those described in chapters 3 and 4.2 of the Interpretative Documents, to which ETA guideline writers must refer. As stated by the Directive, the responsibility Member States have for construction works on their territory remains unchanged.

In order to fulfill the provisions of article 7.1 of the CPD the present mandate has been structured in the following way:

Chapter I Grounds. General conditions within the framework of the CPD.

Chapter II Execution of the mandate. Conditions regarding the programming, development and execution of the work on the guidelines.

CHAPTER I. GROUNDS

1. This mandate falls within the framework of the general policy of the Commission with respect to technical harmonisation and standardisation, as well as within the scope of the Directive. It replaces any previous mandate on the same products formerly issued on a provisional base by the Commission.

2. This mandate is based on article 11 of the Directive and has taken into consideration the Interpretative Documents⁽²⁾ that serve as reference for the establishment of guidelines for ETAs. It serves to ensure the quality of ETA Guidelines for products, always with reference to the state of the art, with particular reference to the fitness of the products listed in annex 1 intended to be used in **EXTERNAL WALLS (INCLUDING CLADDING), INTERNAL WALLS AND PARTITIONS; and ROOFS** enabling the works to satisfy the essential requirements set out in annex 1 of the Directive, provided that barriers to trade in these products exist and that the products fall within the scope of article 2.1 of the Directive;

3. Levels or classes of requirements for the works are under the responsibility of Member States and are not covered by the present mandate. As a consequence, they are not expected to be defined in the ETA guideline.

4. Levels or classes of requirements for the products may be determined either in the Interpretative Documents or according to the procedure provided for in article 20 (2) of the Directive. In either case, where levels or classes of requirements for products are determined, guidance is given in Annex 3 to this mandate. This is not the case for classes of convenience, which are classes of product performances developed as a means of convenience for specifiers, manufacturers and purchasers. Such classes of convenience are not covered by the present mandate and should not be defined within the ETA guideline.

5. The ETA guideline resulting from this mandate must allow products to comply with it even where performance does not need to be determined for a certain characteristic, because at least one Member State has no legal requirement at all for such a characteristic. Declaration of performance for such characteristic must not be imposed on the manufacturer if he does not wish to declare it.

6. Indications regarding the documents which should be taken into account to inform technical specification writers and manufacturers on national and harmonised legislation on substances classified as dangerous are given in Annex 4.

(2) O.J N°C 62, 28.02.1994

CHAPTER II. EXECUTION OF THE MANDATE

1. EOTA will present the Commission with a detailed work programme, at the latest, by the end of **June 1996**.

2. This programme will include all aspects considered necessary to ensure the quality of the ETA guideline and the subsequent ETAs in order to permit the assessment of the fitness for use (in accordance with Article 4 (2) of the Directive) of the products covered by the mandate. In particular it will contain the following:

- a) the title of the ETA guideline;
- b) the content of the guideline, including reference to those items mentioned in III.2;
- c) the list of supporting documents (national standards, ISO standards, prENs, ENs, research results, etc.) which might be used in the ETAs and indications of those documents that have to be developed by EOTA;
- d) the timetable for the development of the guideline and its submission to the EC; and
- e) the identification of the Working Group responsible;

3. Clear differentiation should be made between the item to become the ETA guideline for the product or product family and the items to be used as supporting documents.

4. Where practicable, EOTA will make reference existing harmonised methods of assessment. When a supporting test method for a characteristic does not exist or is not in the work programme of the EOTA WG, a clear statement should be presented indicating whether EOTA is able to produce one or not.

5. Any proposals for the addition of products, intended uses and materials and forms not included in the mandate but considered relevant by the EOTA WG should be presented separately from the work programme for further analysis by the Commission services. Guidelines prepared for products outside of this mandate will not achieve the status of ETA guidelines. In addition to the provisions of article 4.1 of the CPD, it must be taken into account that all the products included in the mandate have a system of attestation of conformity in accordance with the relevant Decision of the Commission; those products not included have not.

6. Any proposal for the addition of characteristics and durability aspects not included in the mandate but considered relevant by the EOTA WG should be proposed in a special chapter of the work programme for further analysis by the Commission services.

7. Where a classification system of the product performances is envisaged in Annex 3 of the present mandate, EOTA is requested to make an appropriate proposal for its implementation.

8. EOTA WGs must give a technical answer for the determination of the characteristics of the mandate taking into account the conditions stated below; test methods suggested must be directly related to the characteristic required and must not make reference to determination methods for characteristics not required by the mandate. Durability requirements should be dealt with in the framework provided by the current state of the art.

9. Reference to test/calculation methods must be in accordance with the harmonisation aimed at. In general, only one method should be referred to for the determination of each characteristic, for a given product or family of products.

If, however, for a product or family of products because of justifiable reasons, more than one method is to be referred to for the determination of the same characteristic, the situation must be justified. In this case all referenced test methods should be linked by the conjunction "or" and an indication of application should be given.

In any other case, two or more test/calculation methods for the determination of one characteristic can be accepted only if a correlation between them exists or can be developed. The relevant harmonised product standard must then select one of them as the method of reference.

Testing and/or calculation methods shall have, whenever possible, a horizontal character covering the widest possible range of products

10. Within the work programme, EOTA will also specify those cases where the performance-based approach will not be followed in the ETA guideline and will give the relevant justification.

11. After examination of the work programme and consultations with EOTA, the Commission services will endorse the timetable and the list of guidelines which meet the terms of this mandate and which will be recognised as ETA guidelines, as well as the list of supporting standards where relevant.

12. The terms of reference of this mandate may be subject to possible modification or addition, if necessary. Acceptance of the work programme by the Commission services does not imply acceptance of all the items listed as supporting documents. EOTA WGs will need to demonstrate the direct link between items for harmonisation and the products, intended uses and characteristics given in the mandate. Nor does acceptance exclude the possibility for further items to be added by EOTA in order to fully respond to the terms of the mandate

13. Representatives of the authorities responsible for national regulations have the right and will be able to participate in the activities of EOTA through their national approval bodies and to present their points of view at all stages of the drafting process of the guidelines.

14. The Commission may participate in the drafting process as observer and has the right to receive all relevant documents.

15. EOTA will immediately inform the Commission of any problem relating to the carrying out of the mandate from within the WGs and will present an annual progress report on work within the framework of the mandate.

16. The progress report will include a description of work carried out and information on any difficulties being met, whether political or technical, with particular reference to those that might lead the authorities of a Member State to raise objections or to resort to article 5.1 of the Directive.

17. The progress report will be accompanied by the latest drafts of the guideline under the mandate and by updated reports on any subcontracted work.

18. Acceptance of this mandate by EOTA can take place only after the work programme has been endorsed by the Commission.

20. EOTA will develop the draft ETA guideline on the basis of the work programme.

21. EOTA will present the final drafts of the ETA guidelines to the Commission for confirmation of compliance with this mandate at the latest in accordance with the timetable agreed between EOTA and the Commission and referred to in point II.2.d).

22. In order for Member States to comply with article 11. 3 of the C.P.D., EOTA will provide them with the ETA guideline, in accordance with the timetable agreed between EOTA and the Commission and referred to in point II.2.d), after a positive vote in EOTA.

CHAPTER III. ETA GUIDELINES

1. ETA guidelines shall be prepared to allow those products listed in Annexes 1 and 2 to be able to be granted an ETA and demonstrate the satisfaction of the essential requirements. One of the purposes of the Directive being to remove barriers to trade, the guidelines deriving from it will therefore be expressed, as far as practicable in performance terms (art. 7.2 of the Directive), having regard to the Interpretative Documents..

2. The ETA guideline should contain provisions concerning the following, in particular:
- a detailed scope and field of application;
 - a detailed description of the product or family of products and the relevant intended uses to be covered, according to Annexes 1 and 2;
 - the classification systems and levels for the above characteristics, if required by the mandate;
 - a list of the relevant Interpretative Documents referred to in Article 3 (3) of the CPD;
 - the specific characteristics of the products within the meaning of the essential requirements referred to in Article 3 (1) of the CPD, as expressed in Annex 2;
 - the test, assessment or calculation procedures;
 - methods of assessing and judging the results of the tests;
 - the inspection and conformity procedures within the meaning of Articles 13, 14 and 15 of the CPD, which must correspond to those expressed in Annex 3;
 - the period of validity of the European technical approvals to be issued under the guideline.

As indicated in I.7, testing and/or calculation methods shall have, whenever possible, a horizontal character covering the widest possible range of products.

3. A minimum or a maximum level of a given characteristic that has to be met by family of products or a product may be identified by the guideline only if required by an agreement of Member States expressed by positive vote under the procedure of article 20

4. As far as possible, the guideline will make reference to performances common to other existing guidelines, and harmonised standards where appropriate, developed under mandates so as to constitute a cohesive and compatible group of European technical specifications. EOTA shall ensure consistency within the whole package of ETAs in the field concerned.

5. With regard to the so called "classes of convenience", which are classes of product performance developed as a means of convenience for specifiers, manufacturers and purchasers, such classes may be used for a standardised presentation of declared values in the ETAs but in such a way that they could never lead to the application of Article 6 (3)

6. The ETA guideline must permit all construction products within its scope, which allow works to meet the essential requirements and which are produced and used lawfully in accordance with technical experience adapted to local, climatological and other conditions, to be granted ETAs and be placed on the market.

7. The essential requirements being expressed in terms of performance of the works, the characteristics of the products should be also expressed, as far as practicable, in terms of performance so that, in referring to the EOTA technical specifications, regulations may "approximate" evolving in terms of "performance requirements". As far as practicable and depending on the intended use mentioned in the annexes of this mandate, the guideline shall include a definition of the durability in term of performance of the declared values of the product characteristics, as well as suitable methods for its evaluation against the actions listed in Annex 2. If the durability is expressed in terms of classes of periods, articles 3.2 and 6.3 of the CPD will not apply.

9. The relevant systems for attestation of conformity according to Article 13.3 and Annex III of the Directive, are listed in annex 3. For the establishment of the corresponding specific provisions of evaluations of conformity, the EOTA guideline will take into account:

- the different intended uses of the product mentioned in the annexes of this mandate and, if any, the different levels or classes of performance;
- cases of individual (non series) production according to Article 13.5 of the Directive;
- the recommendations of paragraph 3 of Annex 3

10. The label accompanying the CE marking will list all the characteristics to be declared according to the declared intended uses mentioned in the annexes of this mandate. In order to take into account existing regulations on products where performance for one or more characteristics may not be required, the label should allow the manufacturer the application of the "No performance determined" case for that or those characteristics.

(Draft 4.2)
ANNEX 1
FIELD OF APPLICATION

| |
|---|
| STRUCTURAL SEALANT GLAZING SYSTEMS (CURTAIN WALLING) |
|---|

LIST OF PRODUCTS INCLUDED IN THE MANDATE

TO BE USED IN: - 4/33 **EXTERNAL WALLS (INCLUDING CLADDING), INTERNAL WALLS AND PARTITIONS**
- 7/33 **ROOFS**

| FORM | MATERIALS | PRODUCTS FOR CONSIDERATION |
|-----------------|---|---|
| | | Structural sealant glazing kits, in which the following components (*) may be used: |
| Large units | glass | Cladding panels of glass Patent glazing systems, |
| Sections, bars | metal: anodised aluminium coated aluminium stainless steel | Framing for walling systems |
| Components | metal glass plastics | Doors and windows |
| | metal plastics | Mechanical fasteners |
| Flexible sheets | silicone | Sealants |
| | plastics | Vapour barriers and checks |
| | silicone | Gaskets |
| | bitumen metal | |

(*) This mandate does not cover these components as separate products. It covers only the system as a definite set of components put on the market as a "kit".

(Draft 4.2)
ANNEX 2
TECHNICAL TERMS OF REFERENCE

STRUCTURAL SEALANT GLAZING SYSTEMS (CURTAIN WALLING)

TO BE USED IN: 04/33 - EXTERNAL WALLS (INCLUDING CLADDING), INTERNAL WALLS AND PARTITIONS
07/33 - ROOFS

Family and subfamilies

STRUCTURAL SEALANT GLAZING KITS

The complete set of components to form the external building enclosure produced with framing elements and glazing at any angle between vertical and 7° above horizontal.

These are systems involving the bonding of glazing so that the loads applied to this infill are redistributed to the supporting structure via a sealant.

Type I: With mechanical means of transferring the self weight of the panels to the sealant support frame and thence to the structure. Devices are used to reduce danger in the event of a sealant failure.

Type II: With mechanical means of transferring the self weight of the panels to the sealant support frame and thence to the structure. Total reliance on the structural sealant for the transfer of all other actions

Type III: With transfer of the self weight of the panels to the sealant support frame and thence to the structure by means of the structural seal. Devices are used to reduce danger in the event of sealant failure

Type IV: Total reliance on the structural sealant for the transfer of all actions, including self weight of the panels to the sealant support frame and thence to the structure

Usually, they consist of vertical and horizontal framing members connected together and anchored to the supporting structure of the building to which, by means of an structural sealant, the glazing is attached to form a light-weight, space enclosing, continuous skin which provide by itself, or in conjunction with the building construction, all normal function of an external wall. It does not contribute to the loadbearing characteristics of the building's structure.

Main elements are: Glass; structural sealant; structural sealant support frame and its anchorage to façade structure; mechanical means for transferring self-weight; retaining device; mullion; transom; spacers; backer rod; location block;...

Characteristics of the STRUCTURAL SEALANT GLAZING KITS to be covered by the ETA Guideline are:

| E R | PERFORMANCE CHARACTERISTIC | Durability |
|-----|---|---|
| 1 | | Y Durability of characteristics against: corrosion, creep, ageing of profile, thermal movements,...., as relevant |
| 2 | Reaction to fire Fire resistance and fire propagation (<i>to upper levels</i>) | |
| 3 | Water tightness | |
| 4 | Resistance to its own dead load Bond strength (<i>glass-sealant-metal support</i>) Windload resistance Thermal shock resistance Impact resistance/safe breakage Resistance to live horizontal loads at sill level Sill height (<i>for panels that include windows</i>) | |
| 5 | Direct and flanking airborne sound insulation | |
| 6 | Thermal resistance Air permeability | |

COMPREHENSIVE TABLE OF CHARACTERISTICS

STRUCTURAL SEALANT GLAZING SYSTEMS (CURTAIN WALLING)

| E R | Performance characteristic | Structural sealant glazing kits | Durability |
|-----|---|--|--|
| 1 | | | <p style="text-align: center;">Y</p> <p style="text-align: center;">Durability of characteristics against: corrosion, creep, ageing of profile, thermal movements,...., as relevant</p> |
| 2 | <ul style="list-style-type: none"> - Reaction to fire - Fire resistance and fire propagation (<i>to upper levels</i>) | <p style="text-align: center;">Y</p> <p style="text-align: center;">Y</p> | |
| 3 | <ul style="list-style-type: none"> - Water tightness | <p style="text-align: center;">Y</p> | |
| 4 | <ul style="list-style-type: none"> - Resistance to its own dead load - Bond strength (<i>glass-sealant-metal support</i>) - Wind load resistance - Thermal shock resistance - Impact resistance/safe breakage - Resistance to live horizontal loads at sill level - Sill height (<i>for panels that include windows</i>) | <p style="text-align: center;">Y</p> | |
| 5 | <ul style="list-style-type: none"> - Direct and flanking airborne sound insulation | <p style="text-align: center;">Y</p> | |
| 6 | <ul style="list-style-type: none"> - Thermal resistance - Air permeability | <p style="text-align: center;">Y</p> <p style="text-align: center;">Y</p> | |

(Draft 4.2)
ANNEX 3
ATTESTATION OF CONFORMITY

Product family : **Structural sealant glazing system (1/1)**

1. Levels and classes for product performances

For the time being, the differences specified in Article 3 (2) of the CPD, do not seem to give rise to the need of a classification system for these products.

Where for such needs it is recognised that a classification of product performance is the means of expressing the range of requirement levels of the works, the Commission will give the appropriate guidance or will request EOTA to make the appropriate proposal through a modification to this mandate.

2. Systems of attestation of conformity

For the product(s) and intended use(s) listed below, EOTA are requested to specify the following system(s) of attestation of conformity in the relevant Guideline for European Technical Approval(s) :

| Product(s) | Intended use(s) | Level(s) or class(es) | Attestation of conformity system(s) |
|--|--------------------------|--------------------------|---|
| Structural sealant glazing kits. Types II and IV¹ ----- | External walls and roofs | | 1 |
| Structural sealant glazing kits. Types I and III² | | ---- | ----- 2+ |
| System 1: See CPD Annex III.2.(i), without audit-testing of samples System 2+ : See DPC Annex III.2.(ii), First possibility, including certification of the factory production control by an approved body on the basis of its continuous surveillance, assesment and approval. | | | |

3. Conditions to be applied by EOTA on the specifications of the attestation of conformity system

¹ Type II: With mechanical means of transferring the self weight of the panels to the sealant support frame and thence to the structure. Total reliance on the structural sealant for the transfer of all other actions

Type IV: Total reliance on the structural sealant for the transfer of all actions, including self weight of the panels to the sealant support frame and thence to the structure

² Type I: With mechanical means of transferring the self weight of the panels to the sealant support frame and thence to the structure. Devices are used to reduce danger in the event of a sealant failure.

Type III: With transfer of the self weight of the panels to the sealant support frame and thence to the structure by means of the structural seal. Devices are used to reduce danger in the event of sealant failure

- 3.1 The specification for the system should be such that it can be implemented even where performance does not need to be determined for a certain characteristic, because at least one Member State has no legal requirement at all for such characteristic [*see Article 2.1 of the CPD and, where applicable, clause 1.2.3 of the Interpretative Documents*]. In those cases the verification of such a characteristic must not be imposed on the manufacturer if he does not wish to declare the performance of the product in that respect.
- 3.2 For products under system 1, regarding the initial type testing of the product, [see Annex III.1.a) of the CPD] the task for the approved body will be limited to the assessment of the following characteristics :
- Euroclass characteristics for reaction to fire** as indicated in Commission Decision 94/611/EC (*where relevant*)
 - Fire resistance and fire propagation** (*to upper levels*)(*where relevant*)
 - Bond strength** (*of support-sealant-glass*)
 - Resistance to its own dead load**
 - Windload resistance**
 - Thermal shock resistance**
 - Impact resistance/safe breakage**
 - Resistance to live horizontal loads at sill level**
- 3.3 For products under systems 1 or 2+, regarding the continuous surveillance, assesment and approval of the factory production control, parameters related to the following characteristics shall be of the interest of the approved body:
- Euroclass characteristics for reaction to fire** as indicated in Commission Decision 94/611/EC
 - Fire resistance and fire propagation** (*to upper levels*)
 - Bond strength** (*of support-sealant-glass*)
 - Resistance to its own dead load**
 - Windload resistance**
 - Thermal shock resistance**
 - Impact resistance/safe breakage**
 - Resistance to live horizontal loads at sill level**
- 3.4 For products under system 1, for the initial inspection of the factory and of the factory production control [see Annex III.1.f) of the CPD], also parameters related to the rest of the relevant characteristics shall be of the interest of the approved body.

Draft (4.2)
ANNEX 4
DANGEROUS SUBSTANCES

STRUCTURAL SEALANTS GLAZING SYSTEMS (CURTAIN WALLING)

European technical specifications must be adopted taking into account necessary legislation on substances classified as dangerous.

This results from the Interpretative Documents, where it is noted in the introduction note to all six of them that:

"Concerning dangerous substances which are in construction products, classes and/or levels of performance to which technical specifications will refer, shall allow the levels of protection needed by the works to be guaranteed, taking into account the purpose of the works."

In addition, outside the scope of the Directive, writers of technical specifications must take into account legislation which affects materials to be used for construction products and which are regulated for reasons not related to the incorporation of the construction products into the works.

In order to permit technical specifications writers to take into account the necessary legislation, a working document was elaborated by the Commission services (doc. CONSTRUCT 95/148 Rev. 1 of January 4, 1996). Specification writers should use this document as a guide but must also take account of any other relevant or dangerous substances which the working document does not yet include.