

European Organisation for Technical Approvals
Europäische Organisation für Technische Zulassungen
Organisation Européenne pour l'Agrément Technique

ETAG 018

Edition November 2004

Amended September 2012

Amendment April 2013

**GUIDELINE FOR EUROPEAN TECHNICAL APPROVAL
OF**

FIRE PROTECTIVE PRODUCTS

**Part 1:
General**

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Section one: INTRODUCTION

Foreword

Background of the ETAG

This Guideline has been prepared by the EOTA Working Group 11.01/01 "Fire Protective Products".

This Guideline specifies the performance requirements, the verification methods used to examine the various aspects of performance, the assessment criteria used to judge the performance for the intended use and the presumed conditions for the design and execution of fire protective products in the works. Since fire protective products are based on different materials, which necessitate additional specific verification and/or assessment, these products are divided into 3 families of products and kits, dealt with in the specific parts of this ETAG 018.

This ETAG 018 Part 1 – "General" shall be used in conjunction with one of the specific parts for a family of products.

The general assessment approach of the Guideline is based on relevant existing knowledge and testing experience.

Updating conditions

EOTA Comprehension Documents permanently take on board all useful information on the general understanding of this ETAG as developed when delivering ETAs by consensus among the EOTA members. Readers and users of this ETAG are advised to check the current status of these documents with an EOTA member.

EOTA may need to make alterations/corrections to the ETAG during its life. These changes will be incorporated into the official version on the EOTA web-site www.eota.eu and the actions catalogued and dated in the associated **Progress Files**.

Readers and users of this ETAG are advised to check the current status of the content of this document with that on the EOTA web-site. The front cover will indicate if and when amendment took place.

1. PRELIMINARIES

An ETA is a technical specification in the sense of the Construction Products Directive (89/106/EEC). This means that Member States shall presume that the approved products are fit for their intended use, i.e. they enable works in which they are employed to satisfy the Essential Requirements during an economically reasonable working life, provided that:

- the works are properly designed and built;
- the conformity of the products with the ETA has been properly attested.

This ETAG is a basis for ETAs, i.e. a basis for the technical assessment of the fitness for use of a product for an intended use. An ETAG itself is not a technical specification.

The application and satisfaction of the provisions of an ETAG (examinations, tests and evaluation methods) leads to an ETA and a presumption of fitness of a product for the defined intended use only through an evaluation and approval process and decision, followed by the corresponding attestation of conformity.

The requirements in this ETAG are set out in terms of objectives and of relevant actions to be taken into account. It specifies values and characteristics, the conformity with which gives the presumption that the requirements set out are satisfied, wherever the state of art permits and after having been confirmed as appropriate for the particular product by the ETA.

2. SCOPE OF THE ETAG

2.1 Scope

This ETAG deals with fire protective products intended to improve the resistance to fire performance or to provide fire protection of building elements (beams, columns, partitions etc.) and services (ducts etc.). It includes intumescent or non-intumescent coatings sprayed or otherwise applied (e.g. paints, coatings) and other products (passive and reactive), often in the form of a kit for fire protective purposes.¹ The protective products may also improve other fire performance aspects (e.g. reaction to fire), but their primary contribution is to resistance to fire performance.

This Guideline does not cover the use of fire protective products in construction works where special extreme fire scenarios apply (e.g. traffic tunnels and nuclear plants).

The ETAG does not cover products only intended to improve the reaction to fire behaviour of other construction products (e.g. impregnations).

This ETAG is divided into the following specific parts:

- Part 1: "General",
- Part 2: "Reactive Coatings",
- Part 3: "Renderings and kits based on Renderings intended to fire resisting applications",
- Part 4: "Fire Protective Board, Slab and Mat Products and Kits".

2.2 Use categories

2.2.1 Use categories related to climatic conditions

The wide variation in European climatic conditions and in the stresses imposed on structures depending on the type of structure and use intensity makes it necessary to restrict the use of fire protective products to defined situations allowing them to achieve the predicted working life.

In general, fire protective products will be influenced with regard to their working lives and durability by different degradation factors which shall be taken into account within the scope of the assessment for the fire protective products, if relevant (see the relevant specific parts of this ETAG). These could be:

- temperature,
- freeze/thaw,
- humidity (water vapour),
- liquid water/rain,
- UV exposure,
- pollution (e.g. for industrial regions: high SO₂, H₂S, NO_x; for coastal regions: high chloride levels),
- biological attack.

These possible degradation factors that affect the true working life and/or the durability of fire protective products shall be defined by use categories given in the EOTA GUIDANCE DOCUMENT 003 "Assessment of working life of products". If further degradation factors of importance exist, they are considered in the specific parts of this ETAG.

¹ In all parts of ETAG 018, the term "product" means "product or kit".

The following use categories are defined for the fire protective products and shall be used as a basis for assessment.

OUTDOOR USE

- EXPOSED TO RAIN AND UV
- NOT EXPOSED TO RAIN AND UV

INDOOR USE

It depends on the different products (described in the specific parts of this ETAG) whether further subdivisions, as referred to in the EOTA GUIDANCE DOCUMENT 003, of the internal and external use categories are necessary or not. The specific parts deal with detailed methods of durability assessment.

Whether the fire protective product is assessed for indoor and/or outdoor use or for more than one of the use categories depends on the applicant's demand.

2.2.2 Use category related to the element(s) intended to be protected

Fire protective products have been divided into product families related to the element they are intended to protect:

- Type 1: Fire protective products as a horizontal membrane protection,
- Type 2: Fire protective products as a vertical membrane protection,
- Type 3: Fire protective products to protect load-bearing concrete elements,
- Type 4: Fire protective products to protect load-bearing steel elements,
- Type 5: Fire protective products to protect load-bearing flat concrete profiled sheet composite elements,
- Type 6: Fire protective products to protect load-bearing concrete filled hollow steel columns,
- Type 7: Fire protective products to protect load-bearing timber elements,
- Type 8: Fire protective products that contribute to the fire resistance of fire separating assemblies with no load bearing requirements,
- Type 9: Fire protective products that contribute to the fire resistance of technical services assemblies in buildings,
- Type 10: Further intended uses, related to fire compartmentalisation or protection of fire performance, not covered by Types 1 to 9.

2.3 Assumptions

The state of the art does not enable the development, within a reasonable time, of full and detailed verification methods and corresponding technical criteria/guidance for acceptance for some particular aspects or products. This ETAG contains assumptions taking account of the state of art and makes provisions for appropriate, additional **case by case approaches** when examining ETA-applications.

The Guidance remains valid for other cases which do not deviate significantly. The general approach of the ETAG remains valid but the provisions then need to be used case by case in an appropriate way. This use of the ETAG is in the responsibility of the Approval Body which receives the special application.

2.4 Components in kits

With an interchange of a component of a fire protective product, it shall be ensured that the new component does not have a negative influence on the performance level and/or the working life of that product.

3. TERMINOLOGY

3.1 Common terminology and abbreviations

For the meaning of such terms (e.g. "Kit" according to Guidance Paper C) see the EOTA website and the EC Guidance Papers.

3.2 Specific terms used in this ETAG

3.2.1 Reactive coating

a fire protective product¹ normally comprising the primer for the corrosion protection or as bonding agent, the reactive component and the top coat. The reactive component of such a fire protective product¹ may be an intumescent material, an ablative material, or a combination of both. These reactive materials may be applied in one or in several layers.

3.2.2 Rendering (spray applied fire resistant coating)

a spray-applied material for fire protection of structural steelwork, concrete or timber with the major proportion consisting of either:

- gypsum or cement binder mixed with one or more aggregates and/or fibres. The composition (dry mix) is mixed with water to produce a slurry that is sprayed wet, or
- mineral fibre mixed with a binder and/or aggregates. The composition (dry mix) is sprayed dry and mixed with water at the nozzle.

When hardened, these products will provide fire resistance to building elements consisting of structural steelwork, concrete or timber as demonstrated by testing to the relevant EN standards.

3.2.3 Boards/panels

rigid product of defined shape and cross section in which the thickness is uniform and substantially smaller than the other dimensions.

3.2.4 Slab

semi-rigid product of defined shape and cross section in which the thickness is uniform and substantially smaller than the other dimensions.

The definition of *Fire Protective Boards/Panels, mats and Slabs* includes small, square or rectangular products, often referred to, in English, as 'tiles' and not rectangular pre-cut tiles. A number of such products would normally be attached to a surface edge to edge, in order to provide fire protection.

3.2.5 Mat

flexible fibrous (insulation) product supplied rolled or flat. The product may be faced e.g. for decorative purpose.

3.2.6 Fire protective boards/panels, mats and slabs

products, which consist essentially of mineral fibres, vermiculite, calcium silicate, cement or gypsum or other suitable materials, that are intended to be added to constructions for fire compartmentalisation or to building services to enhance and/or to preserve their fire performance.

Section two:
GUIDANCE FOR THE ASSESSMENT OF THE FITNESS FOR USE

GENERAL NOTES

(a) Application of the ETAG in the approval procedure

This ETAG provides guidance on the assessment of a family of products or kits and their intended uses. It is the manufacturer or producer who defines the product for which he is seeking the ETA and how it is to be used in the works, and consequently the scale of the assessment.

It is therefore possible that for some products, which are fairly conventional, only some of the tests and corresponding criteria are sufficient to establish fitness for use. In other cases, e.g. special or innovative products or materials, or where there is a range of uses, the whole package of tests and assessment may be applicable.

(b) General lay out

The assessment of the fitness of products with regard to their fitness for intended use in construction works is a process which is covered by the following four chapters:

- Chapter 4: clarifies **the specific requirements for the works** relevant to the products and uses concerned, beginning with the Essential Requirements for works and then listing the corresponding relevant characteristics of products.
- Chapter 5: extends the list in Chapter 4 into more precise definitions and the **methods available to verify** the specific product characteristics and to indicate how the requirements and the relevant product characteristics are described. This is done by test procedures, methods of calculation and of proof, etc. (selection of the appropriate methods)
- Chapter 6: provides guidance on **the assessing and judging methods** to confirm fitness for the intended use of the products.
- Chapter 7: **assumptions and recommendations** are only relevant as far as they concern the basis on which the assessment of the product is made concerning the fitness for the intended use.

(c) Levels or classes related to the essential requirements and to the product performance (EC Guidance Paper E)

This ETAG refers to mandatory levels or classes according to the EC-mandate.

This ETAG indicates the compulsory way of expressing relevant performance characteristics for the product. If, for some uses, at least one Member State has no regulations, a manufacturer always has the right to opt out of one or more of them, in which case the ETA will state "no performance determined" against that aspect, except for those properties for which, when no determination has been made, the product no longer falls under the scope of the ETAG.

(d) Assumed working life of the construction product

The provisions and the verification and assessment methods included or referred to in this ETAG have been written based upon the assumed working life of the fire protective products for the intended use of 10 years or 25 years² when installed in the works, provided that the fire protective product is subject to appropriate use and maintenance (see clause 7.4). These provisions are based on the current state of the art and the available knowledge and experience.

"Assumed working life" means that, if an assessment following the ETAG provisions is made, and if this working life has elapsed, the true working life may be, in normal use conditions, considerably longer without major degradation affecting the Essential Requirements³.

² For details see the part of this ETAG which is relevant for a specific product (family).

³ The real working life of a product incorporated in a specific works depends on the environmental conditions to which that works is subject and the particular conditions of the design, execution, use and maintenance. This ETAG assumes certain conditions but, if the conditions in use are different, it cannot be excluded that in these cases the real working life of the product may also be shorter than the assumed working life.

The declaration of the working life of the construction product cannot be interpreted as a guarantee given by the product manufacturer or the Approval Body issuing the ETA, but could be regarded as a tool for choosing the appropriate product in relation to the expected economically reasonable working life of the works.

4. REQUIREMENTS FOR WORKS, AND THEIR RELATIONSHIP TO THE PRODUCTS CHARACTERISTICS

4.0 General

Meaning of "fitness for use"

"Fitness for (the intended) use" of a construction product means that the product has such characteristics that the **works** in which it will be incorporated **can**, if properly designed and built,

- **satisfy** the Essential Requirements when and where such works are subject to regulations containing such requirements and
- **be fit** for their intended use, account being taken of economy, **and** in this connection **satisfy** the Essential Requirements for an economically reasonable working life, if normally maintained.

Elements of the assessment of fitness for use

The assessment of the fitness of a construction product for its intended use includes:

- the identification of the characteristics of the product which are relevant to its fitness for use (in the following referred to as "regulatory" characteristics);
- the establishment of methods for the verification and assessment of the regulatory product characteristics and the expression of the respective product performances;
- the identification of regulatory characteristics to which the option "No Performance Determined" applies for the reason that in one or more Member States they are not relevant for the fulfilment of the requirements applicable to the works;
- the identification of regulatory characteristics for which limit values (threshold values) have to be respected for technical reasons.

Relationship of requirements to the product characteristics and methods of verification and assessment

The product characteristics, methods of verification and assessment criteria which are relevant for the fitness of the fire protective products for the intended use referred to in Chapter 2 are given in Table 4.1. For the different fire protective products see the relevant specific part of this ETAG.

Table 4.1 – Product characteristics and methods of verification and assessment

N°	Product characteristic	Option "No Performance Determined"	Method of verification and assessment	Expression of the product performance
Essential Requirement 1: Mechanical resistance and stability				
	Not relevant			
Essential Requirement 2: Safety in case of fire				
1	Reaction to fire	Permitted: Class F according to EN 13501-1	5.2.1/6.2.1	Classes A1-F according to EN 13501-1
2	Resistance to fire 4.2.3 Limitation of generation and spread of fire and smoke within	Not permitted	5.2.2/6.2.2	Classification according to EN 13501, Part 2, 3, 4 or 5, as applicable

	construction works			
Essential Requirement 3: Hygiene, health and environment				
3	Air permeability	Permitted	5.3.1/6.3.1	Assessment or declared value
4	Water permeability	Permitted	5.3.1/6.3.1	Assessment or declared value
5	Content and release of dangerous substances	Permitted ^{*1)}	5.3.2/6.3.2	Indication of dangerous substances or "No dangerous substances"
Essential Requirement 4: Safety in use				
6	Mechanical resistance and stability	Permitted	5.4.1/6.4.1	Declared values, levels etc., as appropriate
7	Resistance to impact/movement	Permitted	5.4.2/6.4.2	Declared values, levels etc., as appropriate
8	Adhesion ^{*2)}	Permitted	5.4.3/6.4.3	Declared values, levels etc., as appropriate
Essential Requirement 5: Protection against noise				
9	Airborne sound insulation	Permitted	5.5.1/6.5.1	Single number rating
10	Sound absorption	Permitted	5.5.2/6.5.2	Single number rating
11	Impact sound insulation	Permitted	5.5.3/6.5.3	Single number rating
Essential Requirement 6: Energy economy and heat retention				
12	Thermal properties	Permitted	5.6.1/6.6.1	Declared values, levels etc., as appropriate
13	Water vapour permeability ^{*3)}	Permitted	5.6.2/6.6.2	Declared values, levels etc., as appropriate
General aspects relating to fitness for use ^{*4)}				
14	Durability and serviceability	Not permitted	5.7.1/6.7.1	Specific requirements and assessments are described in the specific parts of this ETAG
15	Identification	Not permitted	5.7.2/6.7.2	Specific requirements and assessments are described in the specific parts of this ETAG

*1) For the meaning of the option "No performance determined" regarding ER 3 see EOTA TR 034.

*2) This characteristic is placed under ER 4 for convenience, but also relates to other Essential Requirements, particularly ER 2. For specific products also the bond strength on a substrate could be meant.

*3) This characteristic also relates to ER 3.

*4) Aspects of durability and economy of the works, which are not dealt with under Essential Requirements 1 to 6. Such aspects are also referred to as "serviceability".

4.1 Mechanical resistance and stability

This Essential Requirement is not relevant to fire protective products.

4.2 Safety in the case of fire

The following aspects of fire performance are relevant for fire protective products:

4.2.1 Reaction to fire

The reaction to fire performance of the fire protective product and/or components of a kit as appropriate shall be in accordance with laws, regulations and administrative provisions, applicable to the fire protective products and/or components of the kit as appropriate in its intended end use application.

4.2.2 Resistance to fire

The resistance to fire performance of the element or service of which the fire protective product may form part shall be in accordance with laws, regulations and administrative provisions applicable to its intended end use application. The option "No Performance Determined" is not applicable for fire protective products.

4.3 Hygiene, health and environment

4.3.1 Air and/or water permeability

If relevant, the design of the fire protective product shall be in accordance with laws, regulations and administrative provisions where the product is incorporated in the works.

4.3.2 Release of dangerous substances

The fire protective product shall be such that, when installed, it does not cause harmful emission of toxic gases, dangerous particles or radiation to the indoor environment or contamination of the outdoor environment (air, soil or water).

The applicant shall:

- submit the chemical constitution and composition of the product and/or constituents of the product to the Approval Body which will observe strict rules of confidentiality; or
- submit a written declaration to the Approval Body stating whether or not and in which concentration the product and/or constituents of the product contains substances which have to be classified as dangerous according to Directive 67/548/EEC and Regulation (EC) No 1272/2008 and listed in the "Indicative list on dangerous substances" of the EGDS, taking into account the installation conditions of the construction product and the release scenarios resulting from there.

The use of recycled materials shall always be indicated, because this could lead to the implementation of further assessment and verification methods.

The information concerning the presence of dangerous substances listed in Council Directive 67/548/EEC and Regulation (EC) No 1272/2008 regulated at European level and listed in the "Indicative list on dangerous substances" of the EGDS and/or of other dangerous substances, shall be circulated as part of the evaluation report by the issuing Approval Body to the other Approval Bodies, under strict conditions of confidentiality.

4.4 Safety in use

The characteristics of the fire protective product affecting the level of risk include e.g. geometry, existence of sharp or cutting edges, harsh nature of surfaces/coarse surface texture.

The following aspects of performance are relevant to this Essential Requirement for fire protective products:

4.4.1 Mechanical resistance and stability

The fire protective product shall have sufficient mechanical resistance to sustain static and/or dynamic loads that can be expected under normal conditions of handling, during installation and its end use conditions (including maintenance, if relevant), these loads can be self weight, dimensional variations due to changes in temperatures or humidity conditions or variations thereof, wind and snow loads, etc., but also loads exercised on the product through a supporting or retaining system.

4.4.2 Resistance to impact/movement

The fire protective product in its end use condition shall have sufficient mechanical resistance and stability to withstand accidentally large static or dynamic loads, from the action of persons or objects, without full or partial collapse causing dangerous (sharp or cutting) fragments, giving risk of falling through, particularly at a change of level, or endangering the safety of other people.

4.4.3 Adhesion

For fire protective products adhered to the substrate, movements which are to be expected under normal use shall not lead to loss of adhesion in the system. Adhered fire protective products shall withstand movements due to temperature and stress variations.

Regardless of any performance requirements of ER4, the intended use of fire protective products requires that their adhesion to the substrate (e.g. bond strength, stickability) shall be examined in relation to their fire performance.

4.5 Protection against noise

4.5.1 Airborne sound insulation

Transmission of airborne sound of fire protective products in their end use condition shall be in accordance with laws, regulations and administrative provisions applicable for the location where the product is incorporated in the works. The NPD option is possible.

4.5.2 Sound absorption

Sound absorption of fire protective products in their end use condition shall be in accordance with laws, regulations and administrative provisions applicable for the location where the product is incorporated in the works. The NPD option is possible.

4.5.3 Impact sound insulation

Impact sound insulation of fire protective products in their end use condition shall be in accordance with laws, regulations and administrative provisions applicable for the location where the product is incorporated in the works. The NPD option is possible.

4.6 Energy economy and heat retention

4.6.1 Thermal insulation

The thermal transmittance/resistance of the fire protective product shall be used to establish that it is in accordance with laws, regulations and administrative provisions applicable for the location where the product is incorporated in the works. The NPD option is possible.

If there is any discontinuity in the assembled system, e.g. a supporting frame or a fixing system, then the effect of thermal bridging shall be considered.

4.6.2 Water vapour permeability

The fire protective product shall be designed, constructed and installed in such a way that moisture transfer does not cause excessive water vapour condensation within the works or on its internal surfaces (this aspect also could be relevant for ER3)

4.7 Aspects of durability, serviceability and identification

4.7.1 Durability and serviceability

Durability of the fire protective product needs to be assessed as required in the specific parts of this ETAG. The requirements concerning durability and serviceability are considered relating to the Essential Requirements, but not to one requirement in particular. Consequently, failure to meet these requirements means that one or more of the Essential Requirements may no longer be met.

Serviceability requirements relate to those properties, which are not covered by any performance characteristics under ER 2 to ER 6, but which fire protective products should have in a way that they are suitable for the intended use.

4.7.2 Identification

4.7.2.1 Means of identification

The product which is the subject of the technical approval shall be identified by (either individually or in combination):

- testing of product characteristics as laid down in the relevant other parts of this ETAG,
- fingerprinting,
- formulation,
- manufacturing process parameters,
- calculations, detailing, drawings.

4.7.2.2 Components in kits

For products supplied as kits, the ETA-holder has the following options regarding the specification of components and these options will have been taken into account by the Approval Body issuing the ETA:

The incorporation of **specific components**; that is, components from a particular supplier that have been accepted by the Approval Body on the basis of their performance in the application.

The incorporation of **generic components**; that is, components that have been accepted by the Approval Body on the basis of conformity to a relevant standard that fully covers the product in the application.

A kit could include specific **and/or** generic types of specifications for components. Furthermore, it is likely that during the lifetime of an ETA, the holder will wish to change the specifications and/or supplier of some components.

The European Technical Approval is issued for the kit on the basis of agreed data and information, deposited with the issuing Approval Body, which identifies the kit and its components that has been assessed and judged. Changes of the kit, of its components or of the production process, which could result in the fact that the deposited data and information is incorrect, shall be announced to the Approval Body before the changes are introduced. The Approval Body will decide whether or not such changes affect the ETA and consequently the validity of the CE marking on the basis of the ETA and if so whether further assessment or alterations to the ETA are necessary. Where a component has been defined in terms of a specific manufacturer's product or where a generic specification does not fully cover the fitness of a component for use in a fire protective product, any change can only be accepted by the Approval Body issuing the ETA, on completion of additional verification as is deemed necessary. Generally, in such cases, issuing a modified ETA will be necessary, with the consequent amendment of the instructions to the notified body.

Where a component of a fire protective product is specified generically, e.g. by reference to a standard, and the Approval Body has confirmed, in the ETA, the full adequacy of that specification to prove the fitness for use of the component in the product, then a change of supplier will be acceptable.

The notified body checks the documentation as deemed necessary by the Approval Body issuing the ETA. In case of doubt reference shall be made to the Approval Body.

With an interchange of a component of fire protective product, it shall be ensured that the new component does not have a negative influence on the performance level or the life of that product.

Detailed information is specified in the relevant specific part of this ETAG.

5. METHODS OF VERIFICATION

5.1 Mechanical resistance and stability

This essential requirement is not relevant to these products.

5.2 Safety in case of fire

5.2.1 Reaction to fire

Case 1: Normal case

The fire protective product shall be tested, using the test method(s) relevant for the corresponding reaction to fire class, in order to be classified according to EN 13501-1.

Mounting and fixing provisions that are considered to be appropriate for the testing of the fire protective product and that are representative for the fire protective intended use application are specified in the specific parts of this ETAG, where relevant.

Case 2: Products satisfying the requirements for the reaction to fire class A1, without the need for testing

The fire protective product is considered to satisfy the requirements for performance class A1 of the characteristic reaction to fire, in accordance with the provisions of EC decision 96/603/EC⁴ (as amended) without the need for testing on the basis of its listing in that decision.

Case 3: Products classified without the need for further testing (CWFT)

The fire protective product is considered to satisfy the requirements for the required performance class of the characteristic reaction to fire in accordance to the appropriate EC CWFT decision without the need for further testing on the basis of its conformity with the specification of the product detailed in that decision and its intended end use application being covered by that decision.

Detailed information is given in the relevant specific part of this ETAG.

5.2.2 Resistance to fire

The part of the works or assembled system in which the fire protective product is intended to be incorporated, installed or applied shall be tested, using the test method relevant for the corresponding fire resistance class, in order to be classified according to the appropriate part of EN 13501.

Detailed information is given in the relevant specific part of this ETAG.

5.3 Hygiene, health and environment

5.3.1 Air and water permeability

For some fire protective products it will be relevant to determine air and water permeability.

5.3.1.1 Air permeability

Air permeability of the fire protective product shall be assessed by comparing the ETA-applicant's design solutions with standard construction details and available technical experience.

If the air permeability cannot be assessed by the use of existing knowledge, e.g. because of unfamiliar or innovative solutions for the relevant construction details, the test shall be carried out under the responsibility of the Approval Body.

5.3.1.2 Water permeability

Water permeability (liquid water penetration) for fire protective products intended to be used externally or

⁴ Official Journal of the European Communities, L 267 of 19 October 1996, p 23

internally, shall be assessed by comparing the ETA-applicant's design solutions with standard construction details and good engineering practice.

If the water permeability cannot be assessed by the use of existing knowledge, e.g. because of unfamiliar or innovative solutions for the relevant construction details, the test shall be carried out under the responsibility of the Approval Body.

5.3.2 Content and/or release of dangerous substances

The product and/or constituents of the product listed in the EOTA TR 034: "General Checklist for ETAGs/CUAPs/ETAs – Content and/or release of dangerous substances in products/kits", which have to be considered will be verified by the given methods taking into account the installation conditions of the construction product and the release scenarios resulting from there. Regulations related to placing the product on the market may also need to be taken into account.

Regarding the release scenarios referred to in the EOTA TR 034, the following use categories have to be considered:

- Category IA1: Product with direct contact to indoor air
- Category IA2: Product with no direct contact to (e.g. covered products) but possible impact on indoor air
- Category IA3: Product with no contact to and no impact on indoor air
- Category S/W1: Product with direct contact to soil, ground and surface water
- Category S/W2: Product with no direct contact to but possible impact on soil, ground and surface water
- Category S/W3: Product with no contact to and no impact on soil, ground and surface water

Categories IA1 and S/W1 are applicable for products which are in contact with indoor air, soil or water in a way that dangerous substances could be released directly out of the product.

Category IA2 is applicable for products which are covered with other products but nevertheless could release dangerous substances to indoor air (e.g. products covered with porous/unsealed coverings incapable of avoiding migration).

Category S/W2 is applicable for products which can be leached by rain and could release dangerous substances which can have impact on soil and water.

Categories IA3 and S/W3 are applicable for products which are completely covered with tight products capable of avoiding any kind of migration of dangerous substances to indoor air, soil or water.

Note that restrictions in content have to be considered in all cases.

5.4 Safety in use

5.4.1 Mechanical resistance and stability

For specific fire protective products, mechanical resistance and stability shall be verified in accordance with the test methods as specified in the relevant specific part of this ETAG.

5.4.2 Resistance to impact/movement

For specific fire protective products, impact resistance shall be verified in accordance with the test methods as specified in the relevant specific part of this ETAG.

Existing EOTA technical reports could be applied, as well as appropriate European test standards. Specific test methods and deviations to existing standard test methods shall be described.

5.4.3 Adhesion

For specific fire protective products, adhesion shall be verified in accordance with the test methods as

specified in the relevant specific part of this ETAG.

5.5 Protection against noise

Where a manufacturer claims acoustic performance the Approval Body shall determine the required verification method although this may need to be adapted to the particularities of the product under consideration.

5.5.1 Airborne sound insulation

Airborne sound insulation shall be verified in accordance with EN 10140-2, if no specific test method is given in the specific part.

5.5.2 Sound absorption

The sound absorption coefficient of the product shall be verified in accordance with EN ISO 354.

5.5.3 Impact sound insulation

Impact sound insulation shall be verified in accordance with EN 10140-3, if no specific test method is given in the specific part.

5.6 Energy economy and heat retention

5.6.1 Thermal insulation

The thermal conductivity shall be determined based on declared values as quoted in European harmonised product standards or in European technical approvals.

Where the applicant declares specific thermal conductivity values, these either shall be tested in accordance with EN 12664, EN 12667 or EN 12939.

Alternatively, the thermal resistance and thermal transmittance (U-value) may be verified by testing according to EN ISO 8990.

If necessary, the thermal resistance shall be calculated on the basis of EN ISO 6946.

In principle, thermal bridges should be prevented. However, if such bridges do occur, their effect on the overall thermal performance shall be incorporated in the above mentioned thermal resistance calculations, taking into account results of thermal bridges calculation methods as described in EN ISO 14683, EN ISO 10211-1 and EN ISO 10211-2.

5.6.2 Water vapour permeability

Where relevant, the water vapour transmission coefficient shall be determined on the basis of tabulated values as declared in European harmonised product standards or European technical approvals. Where the applicant declares specific water vapour transmission coefficient values, these shall be tested in accordance with EN ISO 12572 or EN 12086.

5.7 Aspects of durability and serviceability

5.7.1 Durability and serviceability

Fire protective products shall be assessed, taking into account the following agents:

- physical agents,
- chemical agents,
- biological agents.

The possible influence of elevated temperatures shall be part of the assessment, where relevant.

The test methods - if relevant - with respect to the use categories, are described in the relevant specific part of this ETAG.

Biological attack

Fire protective products may be influenced by biological effects, i.e. mould growth and/or subject to deterioration due to attack by insects or mammals, e.g. rodents. This ETAG foresees no assessment to cover this eventuality. In general, it is an assumption that design provisions will prevent deterioration from occurring. Where the Approval Body expects biological attack to be of particular importance for specific products, additional, case-by-case assessment shall take place, taking into account the nature of the biological agent (the type of mould or mammal).

5.7.2 Identification

Depending on the nature and type of the fire protective product, different identification techniques and procedures have to be considered (either individually or in combination).

Whichever methods are used, it is necessary to recognise practical tolerances in relation to results/data collected. Detailed information about the test methods relevant for identification of the fire protective product is given in the relevant specific parts of this ETAG.

Example techniques and procedures to be considered either individually or in combination (not exhaustive):

- fingerprinting (e.g. infrared, gas chromatography, TGA),
- formulation (e.g. chemical constitution, recipes, composition of raw materials, amounts, components specified by characteristics, compliance with other specifications e.g. European standards or by mass, volume, percentage),
- manufacturing process parameters (e.g. temperature, pressure, time; product/production codes),
- testing of physical characteristics (e.g. geometry, density, mechanical strength),
- calculations, detailing, drawings.

The product characteristics relevant for identification checking are determined in the specific parts of this ETAG.

6. ASSESSING AND JUDGING THE FITNESS OF PRODUCTS FOR AN INTENDED USE

6.1 Mechanical resistance and stability

No requirements/not relevant.

6.2 Safety in case of fire

6.2.1 Reaction to fire

The fire protective product/kit and/or components shall be classified according to EN 13501 –1. Class F is allowed.

6.2.2 Resistance to fire

The part of the works or assembled system in which the fire protective product is intended to be incorporated, installed or applied shall be classified according to the appropriate part of EN 13501.

Note that the NPD option is not possible.

6.3 Hygiene, health and environment

6.3.1 Air and water permeability

The air and water permeability of the fire protective product shall be given in qualitative or quantitative terms depending on the type of assessment.

For some fire protective products the value will be valid for the assembled system which is subjected to testing, and this information will be provided in the ETA. The NPD option is allowed.

6.3.2 Content and/or release of dangerous substances

The product and/or constituents of the product listed in the EOTA TR 034: "General Checklist for ETAGs/CUAPs/ETAs – Content and/or release of dangerous substances in products/kits" (or equivalent EOTA document), and the related dangerous substances which have to be considered, will be assessed by the given methods taking into account the installation conditions of the construction product and the release scenarios resulting from there.

Note (to be implemented in the ETA):

For dangerous substances falling under the scope of the CPD for which:

- no assessment and verification methods are given (or cannot be found in TR 034) or
- "no performance determined" is declared or
- the chosen verification and assessment method does not comply with the regulatory requirement of a particular Member State,

there might be the necessity for an additional assessment.

6.4 Safety in use

6.4.1 Mechanical resistance and stability

The criteria and the way of expressing the results of the verification methods are specified in the relevant specific part of this ETAG. The NPD option is allowed.

6.4.2 Impact resistance

The criteria and the way of expressing the results of the verification methods are specified in the relevant specific part of this ETAG. The NPD option is allowed.

6.4.3 Adhesion

The criteria and the way of expressing the results of the verification methods are specified in the relevant specific part of this ETAG. The NPD option is allowed.

6.5 Protection against noise

6.5.1 Airborne sound insulation

The measured airborne sound insulation is expressed as a single number rating, R_w , in accordance with EN ISO 717-1. The NPD option is allowed.

6.5.2 Sound absorption

The measured sound absorption is expressed as a single number rating, α_w in accordance with EN ISO 11654. The NPD option is allowed.

6.5.3 Impact sound insulation

The measured impact sound insulation is expressed as a single number rating in accordance with EN ISO 717-2. The NPD option is allowed.

6.6 Energy economy and heat retention

6.6.1 Thermal insulation

On the basis of the verification method used, the corresponding tabulated or measured λ -value (in W/mK), the thermal resistance value R (in m²K/W) or the thermal transmittance coefficient U (in W/m²K), calculated, where relevant, in accordance with EN ISO 6946 shall be declared. The source of the declared values or the standard used to determine the values shall be quoted. The NPD option is allowed.

6.6.2 Water vapour permeability

The tabulated or measured value of the water vapour transmission coefficient (μ -value) shall be declared. The source of the values or the standard used to determine the values shall be quoted. The NPD option is allowed.

6.7 Aspects of durability, serviceability and identification

6.7.1 Durability and serviceability

The Approval Body shall assess the possible effects on the performance of the assembled system due to the declared limits, which could be e.g.

- declared physical,
- declared chemical,
- declared biological.

The ETA shall contain the results, expressed in quantitative or qualitative terms, of the verification methods used to verify the durability and serviceability aspects of the fire protective product, related to one or more essential requirements.

6.7.2 Identification

The fire protective product shall be clearly identified. Where possible, reference to European standards shall be made.

All components shall be specified either by mass or volume percentage, with appropriate tolerances and trade names of raw materials as far as they represent their chemical and physical properties. The test methods are described in the relevant specific part of this ETAG.

The ETA is issued for the fire protective product/kit on the basis of agreed data/information, deposited with the Approval Body which issued the ETA, which identifies the product/kit that has been assessed and judged.

Changes in composition or production process shall be notified to the Approval Body which issued the ETA before the changes are introduced to avoid that the deposited data/information is incorrect. The Approval Body which issued the ETA will decide whether or not such changes may affect the ETA and consequently the validity of the CE marking on the basis of the ETA and if so whether further assessment/alterations to the ETA are necessary.

Where a component has been defined in terms of a specific manufacturer's product or where a generic specification does not fully cover the fitness of a component for use in a fire protective product, any change can only be accepted by the Approval Body issuing the ETA, on completion of additional verification as is deemed necessary.

Generally, in such cases, issuing a modified ETA will be necessary, with the consequent amendment of the instructions to the notified body.

Where a component of a fire protective product is specified generically, e.g. by reference to a standard, and the Approval Body has confirmed, in the ETA, the full adequacy of that specification to prove the fitness for use of the component in the product, then a change of supplier will be acceptable.

The notified body checks the documentation as deemed necessary by the Approval Body issuing the ETA. In case of doubt reference shall be made to the Approval Body.

With an interchange of a component of fire protective product, it shall be ensured that the new component does not have a negative influence on the performance level or the life of that product.

7. ASSUMPTIONS AND RECOMMENDATIONS UNDER WHICH THE FITNESS FOR USE OF THE PRODUCTS IS ASSESSED

7.1 Design of works

The fire protective product shall be assessed on the assumption that the element/service to which it is attached or the assembly into which it is incorporated in the works allows for correct fixing and does not apply excessive stress, in a manner for which the product was not designed. Such stress could arise, for example, due to thermal movement or structural settlement. The specific parts of this ETAG give guidance where possible but, ultimately, it is for the user to ensure that the product characteristics set out in the ETA can be realised in particular installations.

7.2 Packaging, transport and storage

The Approval Body shall check that the manufacturer takes suitable precautions to limit the risk of damage or deterioration during transport and storage.

Specific requirements are given in the relevant specific part of this ETAG.

7.3 Execution of the works

Installation of the fire protective product shall be practicable under normal site conditions and is assumed to be performed by adequately trained installers.

The manufacturer shall provide an installation guide for his product. Attention shall be drawn, in the ETA, to any particular precautions necessary when installing the product, taking account of the degree of training of installers.

Specific aspects for various products are given in the relevant specific parts of this ETAG.

7.4 Maintenance and repair

The assessment of the fitness for use is based on the assumption that minor damage, for example that caused by impact, is repaired. It is further assumed that replacement of components in fire protective products/kits during maintenance will be undertaken using materials covered by the ETA.

Specific requirements are given in the relevant specific part of this ETAG.

7.5 Auxiliary components

In many cases it is necessary to include auxiliary components, such as fixings or adhesives in an assembled system, for the purpose of testing a particular manufacturer's fire protective product. This is particularly relevant in tests to determine resistance to fire, where most products cannot be tested in isolation.

The results of such tests will only be valid for the product in service, if it is used with auxiliary components having the same performance characteristics as those used in the tests. It is therefore crucial that the auxiliary components are clearly specified as such in the ETA. This can be achieved in two ways; by a specific or generic reference.

A 'specific' reference means a reference to a particular manufacturer's product by name, type number etc, while a 'generic' reference means a reference to a standard or other specification that completely defines that product. It is for the Approval Body to determine which procedure is to be used in order to ensure that correct auxiliary components can be fully described. It is then the responsibility of the user/installer to ensure that the correct auxiliary components are obtained and used in the works.

The inclusion, in an ETA, of a reference to auxiliary components, is not to be taken as any guarantee or assurance of the components' durability or ongoing consistency of production.

Section three: ATTESTATION OF CONFORMITY (AC)

8. EVALUATION OF CONFORMITY

8.1 System of attestation of conformity

According to the Commission Decision 1999/454/EC⁵ as amended, the system of attestation of conformity given in Table 8.1 applies.

Table 8.1: System of attestation of conformity applicable to fire protective products

Product(s)	Intended use(s)	Level(s) or class(es) (resistance to fire)	Attestation of conformity system
Fire protective products	For fire compartmentation and/or fire protection or fire performance	Any	1

In addition, according to the Commission Decision 1999/454/EC⁵, as amended, the systems of attestation of conformity given in Table 8.2 apply to fire protective products with regard to reaction to fire.

Table 8.2: Systems of attestation of conformity applicable fire protective products with respect to reaction to fire

Product(s)	Intended use(s)	Level(s) or class(es) (reaction to fire)	Attestation of conformity system
Fire protective products (including coatings)	For uses subject to regulations on reaction to fire	(A1, A2, B, C)*	1
		(A1, A2, B, C)**, D, E	3
		(A1 to E)***, F	4
System 1: See Directive 89/106/EEC Annex III.2.(i), without audit-testing of samples System 3: See Directive 89/106/EEC Annex III.2.(ii), second possibility System 4: See Directive 89/106/EEC Annex III.2.(ii), third possibility * Products/materials for which a clearly identifiable stage in the production process results in an improvement of the reaction to fire classification (e.g. an addition of fire retardants or a limiting of organic material) ** Products/materials not covered by footnote (*) *** Products/materials that do not require to be tested for reaction to fire (e.g. products/materials of class A1 according to Commission Decision 96/603/EC ⁴ , as amended)			

Because all products according to this ETAG have to be assessed for resistance to fire, all products fall under AoC System 1. The systems shown in Table 8.2 only indicate who is responsible for testing reaction to fire.

The systems of attestation of conformity referred to above are defined as follows:

⁵ Official Journal of the European Communities, L 178 of 14 July 1999, p 52

System 1: Certification of the conformity of the product by a Notified Product Certification Body on the basis of:

(a) Tasks for the manufacturer:

- (1) factory production control;
- (2) further testing of samples taken at the factory by the manufacturer in accordance with a prescribed test plan;

(b) Tasks for the Notified Product Certification Body:

- (3) initial type-testing of the product;
- (4) initial inspection of factory and of factory production control;
- (5) continuous surveillance, assessment and approval of factory production control.

System 3: Declaration of conformity of the product by the manufacturer on the basis of:

(a) Tasks for the manufacturer:

- (1) factory production control;

(b) Tasks for the notified testing laboratory:

- (2) initial type-testing of the product.

System 4: Declaration of conformity of the product by the manufacturer:

Tasks for the manufacturer:

- (1) initial type-testing of the product;
- (2) factory production control.

For all products, the manufacturer has to make a declaration of conformity.

8.2 Tasks and responsibilities for the manufacturer and Notified Bodies

8.2.1 Tasks for the manufacturer

The “cornerstones” of the actions to be undertaken by the manufacturer of the fire protective product in the procedure of attestation of conformity are laid down in Table 8.3 and the clauses 8.2.1.1 to 8.2.1.6.

Table 8.3 – Control plan for the manufacturer

Nr	Subject/type of control	Test or control method	Criteria, if any	Minimum number of specimens ⁶	Minimum frequency of control ⁶
Factory production control (FPC)					
1	Quality management (system)	8.2.1.1 to 8.2.1.6			
2	Characteristics of the product	See the relevant specific parts of this ETAG			

⁶ For details see the relevant specific part of this ETAG.

8.2.1.1 General

The manufacturer shall exercise permanent internal control of production. All the elements, requirements and provisions adopted by the manufacturer shall be documented in a systematic manner in the form of written policies and procedures, including records of results performed in accordance with the test plan. This production control system shall ensure that the product is in conformity with the European Technical Approval (ETA).

Manufacturers having a quality management system which complies with EN ISO 9001 and which includes all relevant requirements of the ETA are recognised to satisfy the FPC requirements of the Directive.

8.2.1.2 Personnel and equipment

The personnel involved in the production process shall be identified, sufficiently qualified and trained to operate and maintain the production equipment. Machinery and equipment shall be regularly maintained and this shall be documented. All processes and procedures of production shall be recorded at regular intervals.

8.2.1.3 Traceability of processes

The manufacturer shall maintain a traceable documentation of the production process from purchasing or delivery of raw or basic raw materials up to the storage and delivery of finished products.

8.2.1.4 Non-conforming products

Products that do not comply with requirements as specified in the ETA shall be separated from the conforming products and marked as such. The manufacturer shall register non-compliant production and action(s) taken to prevent further non-conformities. External complaints shall also be documented, as well as actions taken.

8.2.1.5 Materials/components in products/kits

Where the manufacturer buys in products as a component of a product or kit he shall ensure that the characteristics of materials/components comply with the specification.

8.2.1.6 Control of monitoring and measuring devices

Where necessary, measuring equipment shall be:

- calibrated or verified at specific intervals, or prior to use, against measurement standards traceable to international or national measurement standards; where no standards exists, the basis used for calibration shall be recorded;
- be adjusted or re-adjusted as necessary;
- be identified to enable the calibration standard to be determined.

When the equipment is found not to conform to requirements, the validity of previous measuring results shall be assessed and recorded. Appropriate action shall be taken on the equipment and any product affected.

8.2.2 Tasks for the Notified Body

The cornerstones of the actions to be undertaken by the Notified Product Certification Body in the procedure of attestation of conformity for fire protective products are laid down in Table 8.4.

Table 8.4 – Control plan for the Notified Product Certification Body

Nr	Subject/type of control	Test or control method	Criteria, if any	Minimum number of specimens	Minimum frequency of control
Initial type-testing of the product (ITT)					
See clauses 8.2.2.1, 8.2.2.2 and the relevant specific parts of this ETAG					
Initial inspection of factory and factory production control (FPC)					
See clauses 8.2.2.1, 8.2.2.2, Table 8.3 and Annex A					
Continuous surveillance, judgment and assessment of factory production control (FPC)					
See clauses 8.2.2.1, 8.2.2.2, Table 8.3 and Annex A					

8.2.2.1 Tasks concerning initial type testing for all products

For the initial type testing of the product, the tasks for the Notified Product Certification Body will be limited to the following characteristics, where relevant:

- resistance to fire,
- mechanical resistance and stability,
- adhesion,
- resistance to impact/movement,
- release of dangerous substances.

Approval tests will have been conducted by the Approval Body or under its responsibility (which may include a proportion conducted by an indicated laboratory or by the manufacturer, witnessed by the Approval Body) in accordance with Section 4 of this ETAG, unless the ETA-holder has opted to make use of the possibility not to declare the product's performance (NPD)⁷. The Approval Body will have assessed the results of these tests in accordance with Section 4 of this ETAG, as part of the ETA issuing procedure.

These tests should be used for the purposes of Initial Type Testing.

System 1:

This work shall be validated by the Notified Product Certification Body for certificate of conformity purposes.

For the initial inspection of the factory and of the factory production control, and for the continuing surveillance, judgement and assessment of the factory production control, parameters related to the following characteristics shall be of interest to the Notified Product Certification Body, where relevant:

- resistance to fire,
- mechanical resistance and stability,
- adhesion,
- resistance to impact/movement.

It is recommended to conduct surveillance inspections at least twice per year.

⁷ NPD is not permitted for the performance of resistance to fire.

8.2.2.2 Tasks concerning uses subject to reaction to fire regulations

For fire protective products under systems 1 and 3, regarding the initial type testing of the product, the task for the Notified Body will be limited to the assessment of the reaction to fire class, as indicated in the Commission Decision 94/611/EC of 9 September 1994, replaced by Commission Decision 2000/147/EC of 8 February 2000⁸.

For fire protective products under system 1, for the initial inspection of the factory and of the factory production control, and for the continuing surveillance, assessment and approval of the factory production control, parameters related to the reaction to fire class, as indicated in the Commission Decision 94/611/EC of 9 September 1994 replaced by Commission Decision 2000/147/EC⁸ shall be of the interest of the Notified Product Certification Body.

It is recommended to conduct surveillance inspections at least twice per year.

8.2.3 Special methods of control and testing used for the evaluation

See the specific parts of this ETAG.

8.3 Documentation

8.3.1 The ETA

See Section 9 of this ETAG.

Any additional (confidential) information shall be declared in the ETA.

8.3.2 Basic manufacturing process

The basic manufacturing process shall be described in sufficient detail to support the proposed FPC methods.

8.3.3 Product and materials specifications

These may include:

- detailed drawings (including manufacturing tolerances),
- incoming (raw) materials specifications and declarations,
- references to European and/or international standards or appropriate specifications,
- manufacturers' data sheets.

Detailed information is given in the specific parts of this ETAG.

8.3.4 FPC test plan

The manufacturer and the Approval Body issuing the ETA shall agree a FPC test plan.

An agreed FPC test plan is necessary as current standards relating to quality management systems (Guidance Paper B, EN ISO 9001, etc), do not ensure that the product specification remains unchanged and they cannot address the technical validity of the type or frequency of checks/tests.

The validity of the type and frequency of checks/tests conducted during production and on the final product shall be considered. This will include the checks conducted during manufacture on properties that cannot be inspected at a later stage and checks on the final product.

The characteristics to be addressed as described in the mandate are resistance/reaction to fire. These will be controlled at least twice per year by analysis/measurements of the relevant characteristics of the fire protective products from the following list:

⁸ Official Journal of the European Communities, L 50 of 23 February 2000, p 14

- composition,
- dimensions,
- physical properties,
- mechanical properties,
- construction.

Where materials/components are not manufactured and tested by the supplier in accordance with agreed methods, then where appropriate they shall be subject to suitable checks/tests by the manufacturer before acceptance.

Detailed information is given in the specific parts of this ETAG.

All this information initially prepared or collected by the Approval Body shall be agreed with the manufacturer.

8.4 CE marking and accompanying information

According to Council Directive 93/68/EEC⁹ the CE marking consists of the letters "CE" in the form laid down in the Directive, followed by the identification number of the Notified Product Certification Body.

The CE marking of fire protective products shall be accompanied by the following information:


- the name and address of the producer or the authorised representative established in the EEA,
- the last two digits of the year in which the CE marking was affixed,
- the number of the EC certificate of conformity for the product,
- the number of the European technical approval,
- number and part of the ETAG used,
- relevant performance characteristics (see NOTES 1 and 2 below),
- intended use, use category as relevant.

NOTE 1: Since the ETA provides all the information regarding the performance characteristics, then reference to the ETA is sufficient.

NOTE 2: If the ETA covers more than one type of fire protective product, and the type designation provides all the information regarding the performance characteristics, then reference to the ETA and the relevant type is sufficient.

⁹ Official Journal of the European Communities, L 220 of 30 August 1993

Example of CE marking and accompanying information

	<p>"CE"-marking</p> <p>Identification number of Notified Product Certification Body</p>
<p>Any Company</p> <p>Rue du Producteur, 50</p> <p>Country</p>	<p>Name and address of the producer or his authorized representative established in the EEA</p>
<p>Xx</p> <p>xxxx-CPD-xxxx</p> <p>ETA-12/1234</p>	<p>Two last digits of year of affixing CE marking</p> <p>Number of EC certificate of conformity</p> <p>ETA Number</p>
<p>ETAG 018, Part 1 and ...</p> <p>Fire protective product</p> <p>"XXX"</p> <p>See ETA-12/1234 for relevant characteristic</p>	<p>ETAG number (ETAG 018-1) and specific part number</p> <p>Name of the product</p> <p>Reference to the specific ETA for relevant characteristics</p>

Section four: ETA CONTENT

9. ETA content and format of the ETA

9.1 Model ETA and format

The manufacturer shall provide an Installation Guide for his product. Attention shall be drawn, in the ETA, to any particular precautions necessary when installing the product, taking account of the degree of training of installers.

European Technical Approvals issued on the basis of this ETAG shall be in accordance with the ETA format given in the Addendum to the specific parts of this ETAG.

The format of the ETA shall be based on the Commission Decision of 22 July 1997¹⁰.

9.2 Checklist for the issuing Approval Body

9.2.1 Scope

The scope of the ETA means a description of the fire protective product, specification of components and the intended use. Clear distinction shall be made between components that are covered by the ETA and those that have not been assessed (e.g. identified as a part of a tested assembly only). It shall be stated in the ETA for which uses the product has been assessed.

9.2.2 Working life

Indication of the assumed working life

The real working life of a product incorporated in a specific works depends on the environmental conditions to which that works is subjected and the particular conditions of design, execution, use and maintenance. This ETAG assumes certain conditions but, if the conditions are different, it cannot be excluded that in these cases the real working life of the product may also be shorter or longer than the assumed working life.

9.2.3 Identification of materials and components

The ETA shall contain information and/or references allowing attestation of conformity in compliance with the approved product as described in the ETA.

If such information/references are confidential, the Approval Body shall manage the assessment in an appropriate way.

9.2.4 Performance

The technical part of the ETA shall contain information on the items as specified in the relevant specific part of this ETAG with reference to the relevant Essential Requirements.

For each listed characteristic, the ETA shall give suitable indication, classification, description or a statement that the verification/assessment has not been carried out ("No performance determined").

9.2.5 Drawings

The ETA shall include section drawings of the fire protective product, including all necessary dimensions and tolerances.

The purpose of the drawings is to illustrate the general configuration of the product.

If required by the manufacturer, some design details may be kept confidential provided that the Approval Body does not find this in contradiction to necessary information related to the correct application of the product and the evaluation of conformity performed by the Notified Product Certification Body.

¹⁰ Official Journal of the European Communities, L 236 of 27 August 1997

9.2.6 Installation

The ETA shall also contain details of the installation details of the maximum acceptable deflection in the supporting structure.

9.2.7 Maintenance and repair

Basic maintenance and repair of the product/kit which is necessary to obtain the minimum estimated working life and performance shall be specified.

ANNEX A

Recommended Checklist for Initial Inspection of Factory, Factory Production Control and the Continuing Surveillance of Factory Production Control

A.1 General

The purpose of this checklist is primarily to assist those involved in the implementation of the technical specification in the sector groups. The checklist is a recommendation for use by the Notified Product Certification Bodies and not legally binding. It complies with the provisions of the CPD and of Guidance Papers 'B' and 'K'. The checklist is intended for initial inspection and the continuing surveillance only.

A.2 Initial inspection of the factory and factory production control (FPC)

The initial inspection of the factory provides for the identification and documentation of the kind and manner of the manufacturing process and factory production control of the products. This is to enable the Notified Product Certification Body to assess the compliance with the provisions of the technical specification on the one hand and to provide a baseline to identify possible changes that may occur during surveillance on the other hand.

A.3 Surveillance of factory production control (FPC)

The surveillance of the manufacturing process includes checking the documentation of the factory production control to ensure continuous compliance with the provisions of the technical specification, and the identification of changes by comparing data obtained during the initial inspection or during the latest inspection.

A.4 Examples for questions to be considered

- 01 Does the ETA-holder have direct control of the appropriate machinery for the production of the products to be certified, or are key elements of the production with respect to the essential characteristics subcontracted to others on or off the site?
- 02 Is the maintenance of machinery and measuring equipment carried out properly, regularly, and is this documented and is the documentation up to date?
- 03 Are the personnel involved in the production sufficiently qualified and trained to operate and maintain the production equipment? Have the personnel involved in the production been identified?
- 04 Are all processes and procedures of the production recorded at regular intervals or continuously (automatically)? How is the documentation organised?
- 05 Has traceability of kit components and constituents been ensured? Is an inspection of the incoming material carried out, and if yes, how and at what intervals?
- 06 Are the manner, extent and frequency of factory production control in accordance with the provisions of the ETA and the documented system? What are the test methods and equipment used? Have any changes been made concerning test methods and/or testing equipment? If so, have appropriate comparable measurements been performed and documented?

Is the testing equipment correctly maintained and calibrated on a continuous basis to ensure consistent accuracy of the tests performed during factory production control and its surveillance?

ANNEX B

Reference Documents

This ETAG incorporates, by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed below. For dated references subsequent amendments to, or revisions of these publications, apply to this ETAG only when incorporated in it by amendment or revision. For undated references the latest dated revision of the publication referred to, applies.

EC Decisions

Commission Decisions 94/611/EC of 9 September 1994 implementing Article 20 Of the Council Directive 89/106/EEC on construction products, OJ L241 of 16 September 1996, p. 25

Commission Decision 96/603/EC of 4 October 1996 establishing the list of products belonging to Classes A 'No contribution to fire' provided for in Decision 94/611/EC implementing Article 20 of Council Directive 89/106/EEC on construction products, OJ L267 of 19 October 1996, p. 23.

Commission Decision 1999/454/EC of 22 June 1999 on the procedure for attesting the conformity of construction products pursuant to Article 20(2) of Council Directive 89/106/EEC as regards fire stopping, fire sealing and fire protective products, OJ L178 of 22 June 1999, p. 52

Commission Decision 2000/147/EC of 8 January 2001 of 8 February 2000 implementing Council Directive 89/106/EC as regards the classification of the reaction to fire performance of construction products, OJ L50 of 23 February 2000, p. 14

Commission Decision 2000/605/EC of 26 September 2000 amending Commission Decision 96/603/EC establishing the list of products belonging to Classes A 'No contribution to fire' provided for in Decision 94/611/EC implementing Article 20 of Council Directive 89/106/EEC on construction products, OJ L258 of 26 September 2000, p. 36

Commission Decision 2003/424/EC of 6 June 2003 amending Decision 96/603/EC establishing the list of products belonging to Classes A 'No contribution to fire' provided for in Decision 94/611/EC implementing Article 20 of Council Directive 89/106/EEC on construction products, OJ L144 of 12 June 2003, p. 9

Test methods and classification standards

EN ISO 354 Acoustics – Measurement of sound absorption in a reverberation room.

EN 10140 Acoustics – Laboratory measurement of sound insulation of building elements –
Part 1: Application rules for specific products.
Part 2: Measurement of airborne sound insulation.
Part 3: Measurement of impact sound insulation.
Part 4: Measurement procedures and requirements.
Part 5: Requirements for test facilities and equipment.

EN ISO 717 Acoustics – Rating of sound insulation of buildings and of building elements –
Part 1: Airborne sound insulation.
Part 2: Impact sound insulation.

EN ISO 8990 Thermal insulation – Determination of steady-state thermal transmission properties – Calibrated and guarded hot box.

- EN ISO 10211 Thermal bridges in building construction – Heat flows and surface temperatures –
 Part 1: General calculation methods.
 Part 2: Linear thermal bridges.
- EN ISO 11654 Acoustics – Sound absorbers for use in buildings – Rating of sound absorption.
- EN ISO 6946 Building components and building elements – Thermal resistance and thermal transmittance – Calculation method.
- EN ISO 9001 Quality management systems – Requirements (including the corrigendum 1:2008-12 for EN ISO 9001).
- EN 12086 Thermal insulating materials for building application – Determination of water vapour transmission properties.
- EN 12664 Thermal performance of building materials and products – Determination of thermal resistance by means of hot plate and heat flow meter methods – Dry and moist products with medium and low thermal resistance.
- EN 12667 Thermal performance of building materials – Determination of thermal resistance by means of hot plate and heat flow meter methods – Dry and moist products with high and medium thermal resistance.
- EN 12939 Thermal performance of building materials – Determination of thermal resistance by means of hot plate and heat flow meter methods – Thick products of high and medium and thermal resistance.
- EN ISO 12572 Hygrothermal performance of building materials and products – Determination of water vapour transmission properties.
- EN 13501 Fire classification of construction products and building elements –
 Part 1: Classification using test data from reaction to fire tests.
 Part 2: Classification using data from fire resistance tests, excluding ventilation services.
 Part 3: Classification using data from fire resistance tests on products and elements used in building service installations: fire resisting ducts and fire dampers (including the Amendment A1:2009).
 Part 4: Classification using data from fire resistance tests on components of smoke control systems (including the Amendment A1:2009).
 Part 5: Classification using data from external fire exposure to roof tests (including the Amendment A1:2009).

Others

- EOTA TR 034 General Checklist for ETAGs/CUAPs/ETAs – Content and/or release of dangerous substances in products/kits.