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Plastics — Thermoplastic jackets for insulation products for building equipment and industrial installations — Requirements and test methods

bsi.

National foreword

This British Standard is the UK implementation of EN 15701:2016. It supersedes BS EN 15701:2009 which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee PRI/21, Testing of plastics.

A list of organizations represented on this committee can be obtained on request to its secretary.

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Plastics - Thermoplastic jackets for insulation products for building equipment and industrial installations - Requirements and test methods

Plastiques - Enveloppes thermoplastiques pour isolants destinés au bâtiment et aux installations industrielles - Exigences et méthodes d'essai

Kunststoffe - Ummantelungen aus thermoplastischen Kunststoffen für Dämmstoffe für die Haustechnik und für betriebstechnische Anlagen - Anforderungen und Prüfungen

This European Standard was approved by CEN on 20 August 2016.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

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European foreword

This document (EN 15701:2016) has been prepared by Technical Committee CEN/TC 249 “Plastics”, the secretariat of which is held by NBN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by May 2017, and conflicting national standards shall be withdrawn at the latest by August 2018.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 15701:2009.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Regulation n° 305/2011.

For relationship with EU Regulation n° 305/2011, see informative Annex ZA, which is an integral part of this document.

According to the CEN-CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

1 Scope

This European Standard specifies the requirements for thermoplastic jackets for insulation products for building equipment and industrial installations and the test methods to be used.

The European Standard does not apply to systems in which the jackets have already been securely fixed over the whole surface of an insulating material *in situ*.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 13501-1:2007+A1:2009, *Fire classification of construction products and building elements - Part 1: Classification using data from reaction to fire tests*

EN 15715, *Thermal insulation products - Instructions for mounting and fixing for reaction to fire testing - Factory made products*

EN ISO 6401, *Plastics - Poly(vinyl chloride) - Determination of residual vinyl chloride monomer - Gas-chromatographic method (ISO 6401)*

EN ISO 8256, *Plastics - Determination of tensile-impact strength (ISO 8256)*

EN ISO 11925-2, *Reaction to fire tests - Ignitability of products subjected to direct impingement of flame - Part 2: Single-flame source test (ISO 11925-2)*

ISO 4593, *Plastics — Film and sheeting — Determination of thickness by mechanical scanning*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1
film
plastic sheeting generally supplied in the form of a roll

3.2
moulding
single or multi-part, three-dimensional product which is made by thermoforming of a plastic film or board and which is made up of cut and machined film/boards

EXAMPLE Elbows, branches, covers, valve coatings, special parts.

3.3
laminate
combination of two or more materials that are bonded together during manufacture to produce a single item or product

[SOURCE: EN ISO 9229:2007, 2.3.13]

3.4
linear application
use of jackets on insulation on straight sections of pipe

3.5
board
rectangular solid product generally supplied in slabs

3.6
thermoplastic, noun
plastic that has thermoplastic properties

[SOURCE: EN ISO 472:2013, 2.1178]

3.7
thermoplastic, adjective
capable of being softened repeatedly by heating and hardened by cooling through a temperature range characteristic of the plastic and, in the softened state, of being shaped by flow repeatedly into articles by moulding, extrusion or forming

[SOURCE: EN ISO 472:2013, 2.1177]

3.8
jackets
rigid, semi-rigid, frequently preformed sheet material that provides mechanical and/or environmental protection or a decorative finish to thermal insulation

[SOURCE: EN ISO 9229:2007, 2.5.2]

4 Requirements

4.1 Requirements for the material composition of the jackets

Thermoplastic materials within the meaning of this standard are homogenous plastics, composite structures (laminates) of different plastics and composite structures of plastics and other materials including primers where the percentage by mass of the plastic film shall be at least 80 %.

4.2 Requirements for vinyl chloride (VC) residual monomer content

Only plastic film shall be used that has a VC residual monomer content not exceeding 0,000 1 % by mass. The test shall be carried out according to 5.1.1.

4.3 Technical and mechanical requirements

4.3.1 General

With regard to the technical and mechanical requirements, a distinction is made between:

a) film in linear applications;

b) plastic film or boards as initial materials for mouldings or finished mouldings made from them.

4.3.2 Technical and mechanical requirements for film for linear applications

4.3.2.1 Film thickness

The tolerances given in Table 1 relative to the nominal thickness shall be maintained in at least 95 % of all measurements.

Table 1 — Tolerances relative to the nominal thickness

Nominal thickness µm	**Tolerance** %
≤ 200	±10
201 to 400	±7
≥ 400	±5

The test shall be carried out according to 5.2.1.

4.3.2.2 Tensile-impact strength

The tensile-impact strength shall be at least 300 kJ/m^2.

The test shall be carried out according to 5.2.2.

4.3.2.3 Width

The permissible tolerance of the actual width from the nominal width shall be ± 1 mm. The tolerance shall be maintained in at least 95 % of all width measurements.

4.3.2.4 Roll run length

For nominal run lengths up to 50 m, the tolerance shall be ± 0,5 m.

The tolerance shall be maintained in at least 95 % of all run length measurements.

4.3.3 Technical and mechanical requirements for the initial material for mouldings

The initial material for mouldings shall have a tensile-impact strength of at least 300 kJ/m^2.

4.3.4 Technical and mechanical requirements for the mouldings

4.3.4.1 Moulding thickness

The Material thickness min of the mouldings shall meet the requirements of Table 2.

Table 2 — Material thickness min

Moulding	Material thickness min
Elbows Branches End pieces	0,15 mm
Valve coatings	0,2 mm
Special parts	no specification

4.3.4.2 Overlapping

The design of the mouldings shall allow an overlap of at least 10 mm during assembly.

4.3.5 Other requirements for film for linear applications and for the initial material for mouldings

For thermal calculations, the values given in Table 3 shall be made available by the manufacturer either as general calculation values based on the literature or as explicit measured values.

Table 3 — Values to be made available

Physical variable	Symbol	Unit
Emissivity	ε	–
Thermal conductivity	λ	W/mK

4.4 Reaction to fire

Where required, the reaction to fire of the jackets shall be determined according to 5.3 and 5.4.

Moulded parts used for assembling the jackets are not subject to testing.

4.5 Release of dangerous substances

National regulations on dangerous substances may require verification and declaration on release, and sometimes content, when construction products covered by this standard are placed on those markets.

In the absence of European harmonized test methods, verification and declaration on release/content should be done taking into account national provisions in the place of use.

NOTE An informative database covering European and national provisions on dangerous substances is available at the Construction website on EUROPA accessed through: *https://ec.europa.eu/growth/tools-databases/cp-ds_en/*.

4.6 Durability of reaction to fire against ageing/degradation

The reaction to fire performance of thermoplastic jackets does not change with time.

5 Test methods

5.1 Chemical testing

5.1.1 VC residual monomer content

The residual content of monomer vinyl chloride shall be determined according to EN ISO 6401.

5.2 Mechanical testing

5.2.1 Film thickness

The test shall be carried out according to ISO 4593.

In addition, random measurements shall be taken and recorded.

5.2.2 Tensile-impact strength

The test shall be carried out according to EN ISO 8256.

5.3 Reaction to fire test

The requirements of EN 13501-1:2007+A1:2009, Table 3 "Classes of reaction to fire performance for linear pipe thermal insulation products" apply as the classification criteria of the jackets.

The reaction to fire test of the jackets shall be carried out linearly according to EN 15715 on mineral wool $A1_L$ or $A2_L$ pipe sections with an insulation thickness of 30 mm. When testing according to EN ISO 11925-2, the jackets shall be subject only to surface flame impingement.

The film shall be fastened to the pipe sections with rivets.

For the test, the film shall be aligned with the closing seam in the direction of the back plate.

5.4 Scope of fire classification

Provided that the jacketing is installed tightly on the insulation product, the classification applies to installation:

— by fixing with plastic push in rivets;

— by fixing with solvent-based adhesive;

— on any type of CE-marked insulation product with any insulation thickness.

6 Marking, labelling and packaging

Each packaging unit shall be clearly marked by the manufacturer with the following information, either directly on the packaging, with an enclosed notice or with an adhesive label:

a) name of the manufacturer or supplier;

b) trade name of the product;

c) dimensions of the product;

d) quantity of the contents;

e) batch number and/or date of production;

f) number of this European Standard, i.e. EN 15701.

7 Assessment and verification of constancy of performance (AVCP)

7.1 General

The compliance of Thermoplastic jackets with the requirements of this standard and with performances declared by the manufacturer in the Declaration of performance (DoP) shall be demonstrated by:

— determination of the product type;

— Factory production control by the manufacturer, including product assessment.

The manufacturer shall always retain the overall control and shall have the necessary means to take responsibility for the product.

7.2 Type Testing

7.2.1 General

All performances related to characteristics included in this standard shall be determined when the manufacturer intends to declare the respective performances unless the standard gives provisions for declaring them without performing tests. (e.g. use of previously existing data, CWFT and conventionally accepted performance).

Tests previously performed in accordance with the provisions of this standard, may be taken into account provided that they were made to the same or a more rigorous test method, under the same system of attestation of conformity on the same product or products of similar design, construction and functionality, such that the results are applicable to the product in question.

For the purposes of testing, the manufacturer's products may be grouped into families, where it is considered that the results for one or more characteristics from any one product within the family are representative for that same characteristics for all products within that same family (a product may be in different families for different characteristics).

NOTE Products may be in different families for different characteristics.

In addition, the determination of the product type shall be performed for all characteristics included in the standard for which the manufacturer declares performances:

— at the beginning of the production of a new or modified thermoplastic jackets(unless a member of the same family), or

— at the beginning of a new or modified method of production (where this may affect the stated properties); or

they shall be repeated for the appropriate characteristic(s), whenever a change occurs in the thermoplastic jackets design, in the raw material or in the supplier of the components, or in the production process (subject to the definition of a family), which would affect significantly one or more of the characteristics.

Where components are used whose characteristics have already been determined, by the component manufacturer, on the basis of compliance with other product standards, these characteristics need not be re-assessed. The specifications of these components shall be documented, as shall be included in the inspection scheme for ensuring their compliance.

7.2.2 Test reports

The results of the determination of the product type shall be documented in test reports. All test reports shall be retained by the manufacturer for at least 10 years after the last date of production of the thermoplastic jackets to which they relate.

7.3 Factory production control (FPC)

7.3.1 General

The manufacturer shall establish, document and maintain an FPC system to ensure that the products placed on the market comply with the declared performance of the characteristics.

The FPC system shall consist of procedures, regular inspections and tests and/or assessments and the use of the results to control raw and other incoming materials or components, equipment, the production process and the product. 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.

This production control system documentation shall ensure a common understanding of conformity evaluation and enable the achievement of the required product characteristics and the effective operation of the production control system to be checked. Factory production control therefore brings together operational techniques and all measures allowing maintenance and control of the compliance of the product with this European standard.

7.3.2 Requirements

7.3.2.1 General

The manufacturer is responsible for organizing the effective implementation of the FPC system. Tasks and responsibilities in the production control organization shall be documented and this documentation shall be kept up-to-date.

The responsibility, authority and the relationship between personnel that manages, performs or verifies work affecting product conformity, shall be defined. This applies in particular to personnel that need to initiate actions preventing product non-conformities from occurring, actions in case of non-conformities and to identify and register product conformity problems. Personnel performing work affecting product conformity shall be competent on the basis of appropriate education, training, skills and experience for which records shall be maintained.

In each factory the manufacturer may delegate the action to a person having the necessary authority to:

— identify procedures to demonstrate conformity of the product at appropriate stages;

— identify and record any instance of non-conformity;

— identify procedures to correct instances of non-conformity.

The manufacturer shall draw up and keep up-to-date documents defining the factory production control. The manufacturer's documentation and procedures should be appropriate to the product and manufacturing process. The FPC system should achieve an appropriate level of confidence in the conformity of the product. This involves:

a) the preparation of documented procedures and instructions relating to factory production control operations, in accordance with the requirements of the technical specification to which reference is made;

b) the effective implementation of these procedures and instructions;

c) the recording of these operations and their results;

d) the use of these results to correct any deviations, repair the effects of such deviations, treat any resulting instances of non-conformity and, if necessary, revise the FPC to rectify the cause of non-conformity.

Where subcontracting takes place, the manufacturer shall retain the overall control of the product and ensure that he receives all the information that is necessary to fulfil his responsibilities according to this European Standard.

If the manufacturer has part of the product designed, manufactured, assembled, packed, processed and/or labelled by subcontracting, the FPC of the subcontractor may be taken into account, where appropriate for the product in question.

The manufacturer who subcontracts all of his activities may in no circumstances pass these responsibilities on to a subcontractor.

NOTE Manufacturers having an FPC system, which complies with the EN ISO 9000 standard series and which addresses the requirements of this European standard are recognized as satisfying the FPC requirements of the Council Directive 89/106/EEC.

7.3.2.2 Equipment

7.3.2.2.1 Testing

All weighing, measuring and testing equipment shall be calibrated and regularly inspected according to documented procedures, frequencies and criteria.

7.3.2.2.2 Manufacturing

All equipment used in the manufacturing process shall be regularly inspected and maintained to ensure use, wear or failure does not cause inconsistency in the manufacturing process. Inspections and maintenance shall be carried out and recorded in accordance with the manufacturer's written procedures and the records retained for the period defined in the manufacturer's FPC procedures.

7.3.2.3 Raw materials and components

The specifications of all incoming raw materials and components shall be documented, as shall the inspection scheme for ensuring their compliance. In case supplied kit components are used, the attestation of conformity level of the component shall be that given in the appropriate harmonized technical specification for that component.

7.3.2.4 Design process

The factory production control system shall document the various stages in the design of products, identify the checking procedure and those individuals responsible for all stages of design. During the design process itself, a record shall be kept of all checks, their results, and any corrective actions taken.

This record shall be sufficiently detailed and accurate to demonstrate that all stages of the design phase, and all checks, have been carried out satisfactorily.

7.3.2.5 Traceability and marking

Individual products, product batches or packages shall be identifiable and traceable with regard to their production origin. The manufacturer shall have written procedures ensuring that processes related to affixing traceability codes and/or markings are inspected regularly.

7.3.2.6 Controls during manufacturing process

The manufacturer shall plan and carry out production under controlled conditions.

7.3.2.7 Product testing and evaluation

The manufacturer shall establish procedures to ensure that the stated values of the characteristics he declares are maintained. The characteristics, and the means of control, are:

— material composition shall be subject to the tests indicated in the relevant subclauses: 4.1 and 4.2, at least once a year and when the origin of supply is changed;

— technical and mechanical requirements for films for linear applications shall be subject to the tests indicated in 4.3.2, at least once a Year and when the origin of supply is changed;

— technical and mechanical requirements for the mouldings shall be subject to the tests indicated in 4.3.3, with a frequency of at least once a week for 4.3.4.1 and 4.3.4.2.

7.3.2.8 Non-complying products

The manufacturer shall have written procedures which specify how non-complying products shall be dealt with. Any such events shall be recorded as they occur and these records shall be kept for the period defined in the manufacturer's written procedures.

7.3.2.9 Corrective action

The manufacturer shall have documented procedures that instigate action to eliminate the cause of non-conformities in order to prevent recurrence.

7.3.2.10 Handling, storage and packaging

The manufacturer shall have procedures providing methods of product handling and shall provide suitable storage areas preventing damage or deterioration.

7.3.3 Product specific requirements

The FPC system shall:

— address this European Standard. and

— ensure that the products placed on the market comply with the declared performance characteristics.

The FPC system shall include a product specific FPC, which identifies procedures to demonstrate compliance of the product at appropriate stages, i.e.:

a) the controls and tests to be carried out prior to and/or during manufacture according to a frequency laid down in the FPC test plan, and/or

b) the verifications and tests to be carried out on finished products according to a frequency laid down in the FPC test plan.

If the manufacturer uses only finished products, the operations under b) shall lead to an equivalent level of compliance of the product as if FPC had been carried out during the production.

If the manufacturer carries out parts of the production himself, the operations under b) may be reduced and partly replaced by operations under a). Generally, the more parts of the production that are carried out by the manufacturer, the more operations under b) may be replaced by operations under a).

In any case the operation shall lead to an equivalent level of compliance of the product as if FPC had been carried out during the production.

NOTE Depending on the specific case, it can be necessary to carry out the operations referred to under a) and b), only the operations under a) or only those under b).

The operations under a) refer to the intermediate states of the product as on manufacturing machines and their adjustment, and measuring equipment, etc. These controls and tests and their frequency shall be chosen based on product type and composition, the manufacturing process and its complexity, the sensitivity of product features to variations in manufacturing parameters, etc.

The manufacturer shall establish and maintain records that provide evidence that the production has been sampled and tested. These records shall show clearly whether the production has satisfied the defined acceptance criteria and shall be available for at least three years.

These records shall be available for inspection.

Where the product fails to satisfy the acceptance measures, the provisions for non-complying products shall apply, the necessary corrective action shall immediately be taken and the products or batches not complying shall be isolated and properly identified.

Once the fault has been corrected, the test or verification in question shall be repeated.

The results of controls and tests shall be properly recorded. The product description, date of manufacture, test method adopted, test results and acceptance criteria shall be entered in the records under the signature of the person responsible for the control/test.

With regard to any control result not meeting the requirements of this European standard, the corrective measures taken to rectify the situation (e.g. a further test carried out, modification of manufacturing process, throwing away or putting right of product) shall be indicated in the records.

Individual products or batches of products and the related manufacturing documentation shall be completely identifiable and retraceable.

7.3.4 Initial inspection of factory and of FPC

Initial inspection of FPC shall be carried out when the production process has been finalized and in operation. The factory and FPC documentation shall be assessed to verify that the requirements of 7.3.2 and 7.3.3 are fulfilled.

During the inspection it shall be verified:

a) that all resources necessary for the achievement of the product characteristics required by this European standard are in place and correctly implemented, and

b) that the FPC-procedures in accordance with the FPC documentation are followed in practice, and

c) that the product complies with the Initial Type Testing/Type Testing samples, for which compliance with this European standard has been verified.

All locations where final assembly or at least final testing of the relevant product is performed shall be assessed to verify that the above conditions a) to c) are in place and implemented. If the FPC system covers more than one product, production line or production process, and it is verified that the general requirements are fulfilled when assessing one product, production line or production process, then the assessment of the general requirements does not need to be repeated when assessing the FPC for another product, production line or production process.

All assessments and their results shall be documented in the initial inspection report.

7.3.5 Continuous surveillance of FPC

Surveillance of the FPC shall be undertaken once per year. The surveillance of the FPC shall include a review of the FPC test plan(s) and production processes(s) for each product to determine if any changes have been made since the last assessment or surveillance. The significance of any changes shall be assessed.

Checks shall be made to ensure that the test plans are still correctly implemented and that the production equipment is still correctly maintained and calibrated.

The records of tests and measurement made during the production process and to finished products shall be reviewed to ensure that the values obtained still correspond with those values for the samples submitted to the determination of the product type and that the correct actions have been taken for non-compliant devices.

7.3.6 Procedure for modifications

If modifications are made to the product, production process or FPC system that could affect any of the product characteristics required by this standard, then all the characteristics for which the manufacturer declares performance, which may be affected by the modification, shall be subject to the determination of the product type, as described in 7.2.1.

Where relevant, a re-assessment of the factory and of the FPC system shall be performed for those aspects, which may be affected by the modification.

All assessments and their results shall be documented in a report.

Annex ZA
(informative)

Relationship of this European Standard with Regulation (EU) No. 305/2011

(When applying this standard as a harmonized standard under Regulation (EU) No. 305/2011, manufacturers and Member States are obliged by this regulation to use this Annex.)

ZA.1 Scope and relevant characteristics

This European Standard has been prepared under standardization request M103[1)] Thermal insulating products given to CEN and CENELEC by the European Commission (EC) and the European Free Trade Association (EFTA).

When this European Standard is cited in the Official Journal of the European Union (OJEU), under Regulation (EU) No. 305/2011, it shall be possible to use it as a basis for the establishment of the Declaration of Performance (DoP) and the CE marking, from the date of the beginning of the co-existence period as specified in the OJEU.

Regulation (EU) No. 305/2011, as amended, contains provisions for the DoP and the CE marking.

Table ZA.1 — Relevant clauses for Thermoplastic jackets and intended use

Product: Thermoplastic jackets for insulation products **Intended use:** for thermoplastic jackets for insulation products for building equipment and industrial installations.			
Essential Characteristics	**Clauses of this European Standard related to essential characteristics**	**Classes and/or threshold levels**	**Notes**
Reaction to fire	4.4	A1 to F	Declared class
Release of dangerous substances	4.5	–	
Durability of reaction to fire against ageing/degradation	4.6	–	

ZA.2 System of Assessment and Verification of Constancy of Performance (AVCP)

The AVCP systems of Thermoplastic jackets indicated in Table ZA.1, can be found in the EC legal act(s) adopted by the EC: Decision 1999/472/EC of 1 July 1999 (OJEU L 184/42) amended by the Commission Decision 2011/596/EC of 8 January 2001 (OJEU L209/33).

Micro-enterprises are allowed to treat products under AVCP system 3 covered by this standard in accordance with AVCP system 4, applying this simplified procedure with its conditions, as foreseen in Article 37 of Regulation (EU) No. 305/2011.

1) As amended.

ZA.3 Assignment of AVCP tasks

The AVCP systems of Thermoplastic jackets as provided in Table ZA.1 is defined in Tables ZA.3.1 to ZA.3.3 resulting from application of the clauses of this or other European Standards indicated therein. The content of the tasks assigned to the notified body shall be limited to those essential characteristics, if any, as provided for in Annex III of the relevant standardization request and to those that the manufacturer intends to declare.

Taking into account the AVCP systems defined for the products and the intended uses the following tasks are to be undertaken by the manufacturer and the notified body respectively for the assessment and verification of the constancy of performance of the product.

Table ZA.3.1 — Assignment of AVCP tasks for Thermoplastic jackets for insulation products under system 1 for reaction to fire classes (A1, A2, B, C)[a] and system 3

Tasks		Content of the task	AVCP clauses to apply
Tasks for the manufacturer	Factory production control (FPC)	Parameters related to essential characteristics of Table ZA.1 relevant for the intended use which are declared	7.3
	Further testing of samples taken at the manufacturing plant by the manufacturer in accordance with the prescribed test plan	Essential characteristics of Table ZA.1 relevant for the intended use which are declared	7.3
Tasks for a notified testing laboratory	Determination of the product-type on the basis of type testing (based on sampling carried out by the manufacturer), type calculation, tabulated values or descriptive documentation of the product	Durability, Release of dangerous substances	7.2
Tasks for the notified product certification body	An assessment of the performance of the construction product carried out on the basis of testing (including sampling), calculation, tabulated values or descriptive documentation of the product	Reaction to fire	7.2
	Initial inspection of manufacturing plant and of FPC	Parameters related to essential characteristics of Table ZA.1, relevant for the intended use, which are declared, namely reaction to fire. Documentation of the FPC.	7.3,7.3.4
	Continuing surveillance, assessment and evaluation of FPC	Parameters related to essential characteristics of Table ZA.1, relevant for the intended use, which are declared, namely reaction to fire. Documentation of FPC	7.3,7.3.5

[a] 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).

Table ZA.3.2 — Assignment of AVCP tasks for Thermoplastic jackets for insulation products under system 3 for reaction to fire classes (A1, A2, B, C)[b],D,E

Tasks		Content of the task	AVCP clauses to apply
Tasks for the manufacturer	Factory production control (FPC)	Parameters related to essential characteristics of Table ZA.1 relevant for the intended use which are declared	7.3
Tasks for a notified laboratory	The notified laboratory shall assess the performance on the basis of testing (based on sampling carried out by the manufacturer), calculation, tabulated values or descriptive documentation of the construction product.	Essential characteristics of Table ZA.1, relevant for the intended use which are declared: Reaction to fire (classes (A1, A2, B, C)[(b)], D, E)) Release of dangerous substances Durability	7.2
b Products/materials not covered by footnote (a).			

Table ZA.3.3 — Assignment of AVCP tasks for Thermoplastic jackets for insulation products under system 3 and system 4 for reaction to fire classes (A1 to E)[c], F

Tasks		Content of the task	AVCP clauses to apply
Tasks for the manufacturer	An assessment of the performance of the construction product on the basis of testing, calculation, tabulated values or descriptive documentation of that product	Essential characteristics of Table ZA.1 relevant for the intended use which are declared except release of dangerous substances	7.2
	Factory production control (FPC)	Parameters related to essential characteristics of Table ZA.1 relevant for the intended use	7.3
Tasks for a notified laboratory	The notified laboratory shall assess the performance on the basis of testing (based on sampling carried out by the manufacturer), calculation, tabulated values or descriptive documentation of the construction product.	Essential characteristic of Table ZA.1, relevant for the intended use which are declared: Release of dangerous substances	7.2
c Products/materials that do not require to be tested for reaction to fire (e.g. Products/materials of classes A1 according to Commission Decision 96/603/EC, as amended).			

Bibliography

[1] EN 13823, *Reaction to fire tests for building products — Building products excluding floorings exposed to the thermal attack by a single burning item*

[2] EN ISO 472:2013, *Plastics - Vocabulary (ISO 472:2013)*

[3] EN ISO 9229:2007, *Thermal insulation - Vocabulary (ISO 9229:2007)*

[4] Council Directive 89/106/EEC of 21 December 1988 on the approximation of laws, regulations and administrative provisions of the Member States relating to construction products

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