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BSI Standards Publication

Power, control and communication cables — Cables for general applications in construction works subject to reaction to fire requirements

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National foreword

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The UK participation in its preparation was entrusted to Technical Committee GEL/20/17, Electric Cables - Low voltage.

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

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Power, control and communication cables - Cables for general applications in construction works subject to reaction to fire requirements

Câbles d'énergie, de commande et de communication - Câbles pour applications générales dans les ouvrages de construction soumis aux exigences de réaction au feu

Starkstromkabel und -leitungen, Steuer- und Kommunikationskabel - Kabel und Leitungen für allgemeine Anwendungen in Bauwerken in Bezug auf die Anforderungen an das Brandverhalten

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Foreword

This document (EN 50575:2014) has been jointly prepared by CLC/TC 20 "Electric cables", CLC/TC 46X "Communication cables" and its sub-committees and CLC/TC 86A "Optical fibres and optical fibre cables".

The following dates are fixed:

• latest date by which this document has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2015-08-11
• latest date by which the national standards conflicting with this document have to be withdrawn	(dow)	2017-08-11

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This document has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For the relationship with EU Directive(s) see informative Annex ZZ, which is an integral part of this document.

Performance characteristics other than those covered by the standard may be subject to the provisions of other relevant directives and Regulations, for example the Low Voltage directive (2006/95/EC).

1 Scope

This European Standard specifies reaction to fire performance requirements, test and assessment methods for electric cables used for the supply of electricity and for control and communication purposes, which are intended for use in construction works and subject to performance requirements on reaction to fire.

The cables covered by this standard are intended to be used for the supply of electricity and communications in buildings and other civil engineering works with the objective of limiting the generation and spread of fire and smoke.

Cables intended to be used for the supply of electricity, communication, and fire detection and alarm in buildings and other civil engineering works where it is essential to assure the continuity of power and/or signal supply of safety installations such as alarm, way guidance and fire fighting installations are not covered by this standard.

NOTE This European Standard does not replace the electrical, mechanical and environmental requirements that are essential to demonstrate compliance with other applicable cable standards/specifications.

This European Standard covers:

— power cables – insulated conductors and cables for use in, e.g. the supply of electricity;

— control and communication cables – wires, symmetric cables, and coaxial cables with metallic conductors for use in, e.g. telecommunication, data transmission, radio frequency, video communication and signalling and control equipment;

— optical fibre cables – for use in, e.g. telecommunication, data transmission, radio frequency, video communication and signalling and control equipment.

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 13501-6*, Fire classification of construction products and building elements — Part 6: Classification using data from reaction to fire tests on electric cables*

EN 50399*, Common test methods for cables under fire conditions — Heat release and smoke production measurement on cables during flame spread test — Test apparatus, procedures, results*

EN 60332-1-2*, Tests on electric and optical fibre cables under fire conditions — Part 1-2: Test for vertical flame propagation for a single insulated wire or cable — Procedure for 1 kW pre-mixed flame (IEC 60332-1-2)*

EN 60754-2*, Test on gases evolved during combustion of materials from cables — Part 2: Determination of acidity (by pH measurement) and conductivity (IEC 60754-2)*

EN 61034-2*, Measurement of smoke density of cables burning under defined conditions — Part 2: Test procedure and requirements (IEC 61034-2)*

EN ISO 1716*, Reaction to fire tests for products — Determination of the gross heat of combustion (calorific value) (ISO 1716)*

3 Terms and definitions

For the purposes of this document the terms and the definitions given in EN 13501-6, EN 60754-2, EN 50399, EN 60332-1-2, EN 61034-2 and EN ISO 1716 and the following apply.

3.1
electric cable
all power, control and communication cables, including optical fibre cables and hybrid cables which are a combination of two or more of these cable types

3.2
power cable
assembly comprising one or more insulated conductor(s), together with any coverings and protective layers, used for the transmission or supply of electrical energy

3.3
control cable
assembly comprising insulated conductors, together with any coverings and protective layers, used for the transmission of control, measuring and indication signals in electric installations

3.4
communication cable
assembly of suitably insulated coaxial conductors or twisted pairs of insulated conductors fabricated to meet transmission, mechanical and environmental requirements, and sufficient to allow conveyance of information between two points with the minimum of radiation

3.5
optical fibre cable
assembly comprising one or more optical fibres or fibre bundles inside a common covering designed to protect them against mechanical stresses and other environmental influences while retaining the transmission quality of the fibres

Note 1 to entry: May also contain metallic conductors.

[SOURCE: IEV 731-04-01]

3.6
product family
group of products produced by one manufacturer for which the test results for one or more characteristics from one product within the family are considered to be representative for that same characteristic for all other products within this family

4 Product characteristics

4.1 Reaction to fire

The contribution of power, control and communication cables to the development of fire shall be verified according to the test methods relevant for the claimed class as indicated in Clause 5.

Test results shall be classified according to EN 13501-6.

The contribution to the development of fire is classified regarding gross calorific potential, flame spread, total heat release, peak heat release rate and Fire Growth Rate Index (FIGRA) and is completed by additional classifications regarding smoke production, flaming droplets/particles and acidity.

4.2 Release of dangerous substances

National regulations on dangerous substances may require verification and declaration on release, and sometimes content, when 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 web site on EUROPA accessed through:
http://ec.europa.eu/enterprise/construction/cpd-ds/

5 Test methods for reaction to fire classes

Table 1 gives the reference to the European Standard containing the test methods to be used for the corresponding reaction to fire class.

Table 1 — Test methods for reaction to fire classes

Class	Test methods				
	EN ISO 1716	**EN 50399** [a]	**EN 60332-1-2**	**EN 61034-2** [c]	**EN 60754-2** [c,d]
A_{ca}	X	-	-	-	-
$B1_{ca}$	-	X [b]	X	X	X
$B2_{ca}$	-	X	X	X	X
C_{ca}	-	X	X	X	X
D_{ca}	-	X	X	X	X
E_{ca}	-	-	X	-	-
F_{ca}	No performance determined				

[a] EN 50399 contains all the information previously referred to as $FIPEC_{20}$ Scenario 1 and $FIPEC_{20}$ Scenario 2.
[b] Special conditions of test apply in EN 50399 to Class $B1_{ca}$.
[c] Additional classification tests.
[d] EN 60754-2 contains all the information previously contained in EN 50267-2-3.

6 Assessment and verification of constancy of performance - AVCP

6.1 General

The compliance of power, control and communication cables with the requirements of this European Standard and with the performance (including classes) 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 conformity of the product with its declared performance.

6.2 Type testing

6.2.1 General

All performances related to characteristics included in this European Standard shall be determined when the manufacturer intends to declare the respective performances except where the standard gives provisions for declaring them without performing tests (e.g. use of previously existing data).

Where applicable the Extended Application (EXAP) rules given in CLC/TS 50576 should be applied for the selection of suitable representative samples and applicability of test results to cables other than those tested.

Assessment previously performed in accordance with the provisions of this European Standard may be taken into account providing that they were made to the same test method, under the same AVCP system on the same product or products of similar design, construction and functionality such that the results are applicable to the product in question.

NOTE Same AVCP system means testing by, or testing witnessed or supervised by, an independent third party for products covered by system 1+ and 3, under the responsibility of a product certification body for products covered by system 1+.

For the purpose of reaction to fire assessment, the manufacturer's products may be grouped into product families, where it is considered that the results for one or more characteristics from any one cable within the product family are representative for that same characteristic for all cables within that same product family.

In addition, the determination of 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 power, control and communication cable type (unless a member of the same product family); or

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

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

Products bearing regulatory marking in accordance with appropriate harmonized European specifications may be presumed to have the performances declared in the DoP, although this does not replace the responsibility on the power, control and communication cables manufacturer to ensure that the power, control and communication cables as a whole is correctly manufactured and have the declared performance values.

6.2.2 Test samples, testing and compliance criteria

For power, control and communication cables to be tested/assessed with regard to reaction to fire, as indicated in 4.1, the test methods are given in Clause 5 for the relevant claimed class and EN 13501-6 gives the number of samples to be tested and the criteria for expressing the test results.

6.2.3 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 power, control and communication cables to which they relate.

6.3 Factory production control (FPC)

6.3.1 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 essential characteristics.

The FPC system shall consist of procedures, regular inspections, 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 factory production control system documentation shall ensure a common understanding of the evaluation of the constancy of performance and enable the achievement of the required product performances 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 the declared performances of the essential characteristics.

6.3.2 Requirements

6.3.2.1 General

The manufacturer is responsible for organizing the effective implementation of the FPC system in line with the content of this product standard. 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 constancy, shall be defined. This applies in particular to personnel that need to initiate actions preventing product non-constancies from occurring, actions in case of non-constancies and to identify and register product constancy problems.

Personnel performing work affecting the constancy of performance of the product 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 constancy of performance of the product at appropriate stages;

— identify and record any instance of non-constancy;

— identify procedures to correct instances of non-constancy.

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 constancy of performance 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-constancy of performance.

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.

A 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 EN ISO 9001 standard and which addresses the requirements of this European Standard are considered as satisfying the FPC requirements of the Regulation (EU) No 305/2011.

6.3.2.2 Equipment

6.3.2.2.1 Testing

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

6.3.2.2.2 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.

6.3.2.3 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.

6.3.2.4 Traceability and marking

Individual cable batches 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.

6.3.2.5 Controls during manufacturing process

The manufacturer shall plan and carry out production under controlled conditions, appropriate to the particular manufacturing process.

6.3.2.6 Product testing and evaluation

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

— reaction to fire characteristics shall be subject to the tests indicated in Clause 5 at least once per year. Only one product sample shall be selected from each product family.

The test frequency may be reduced subject to the provisions of 6.3.3.

6.3.2.7 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.

Where the product fails to satisfy the acceptance criteria, 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. further test carried out, modification of manufacturing process, scrapping or correction of product) shall be indicated in the records.

6.3.2.8 Corrective action

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

6.3.2.9 Handling, storage and packaging

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

6.3.3 Product specific requirements

The FPC system shall address this European Standard, and ensure that the products placed on the market comply with the declaration of performance.

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 the 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.

6.3.4 Initial inspection of factory and FPC

Initial inspection of the factory and of FPC for products covered by AVCP system 1+ 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 6.3.2 and 6.3.3 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 product-type samples, for which compliance of the product performance to the DoP has been verified.

All locations where final manufacture and 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.

6.3.5 Continuous surveillance of FPC (for products covered by AVCP system 1+)

Surveillance of the FPC shall be undertaken twice per year.The surveillance of the FPC shall include a review of the FPC test plan(s) and production process(es) 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 at appropriate time intervals.

Audit testing for reaction to fire characteristics shall be carried out once every 3 years on product samples selected from the production of products for which the manufacturer makes a declaration of performance (DoP).

Only one product sample shall be selected from each product family.

The repeat audit testing interval for a product type may be extended to once every 5 years providing that two consecutive audits have been satisfactorily completed.

Reaction to fire characteristics shall be subject to the tests indicated in Clause 5.

Samples shall be selected from finished goods which have been released for sale by the manufacturer.

The records of tests and measurements made during the production process and on 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 products.

6.3.6 Procedure for modifications

If modifications are made to the product, production process or FPC system that could affect any of the product characteristics declared according to this European Standard, then all characteristics for which the manufacturer declares performance, which may be affected by the modification, shall be subject to the determination of product-type as described in 6.2.1.

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.

6.3.7 One-off products, pre-production products (e.g. prototypes) and products produced in very low quantities

Power, control and communication cables produced as a one-off, prototypes assessed before full production is established and products produced in very low quantities - less than 10 km in length and less than 5 t in weight per year - shall be assessed as follows:

For type assessment, the provisions of 6.2.1 paragraph 3 apply; together with the following additional provisions:

— in the case of prototypes, the test samples shall be representative of the intended future production and shall be selected by the manufacturer;

— on request of the manufacturer, the results of the type assessment of prototype samples may be included in a certificate or in test reports issued by the involved third party.

The FPC system of one-off products and products produced in very low quantities shall ensure that raw materials and/or components are sufficient for production of the product. The provisions on raw materials and/or components shall apply only where appropriate. The manufacturer shall maintain records allowing traceability of the product.

For prototypes, where the intention is to move to series production, the initial inspection of the factory and FPC shall be carried out before the production is already running and/or before the FPC is already in practice. The following shall be assessed:

— the FPC-documentation, and

— the factory.

In the initial assessment of the factory and FPC, it shall be verified:

a) that all resources necessary for the achievement of the product characteristics included in this European Standard will be available, and

b) that the FPC procedures in accordance with the FPC documentation will be implemented and followed in practice, and

c) that procedures are in place to demonstrate that the factory production processes can produce a product complying with the requirements of this European Standard and that the product will be the same as the samples used for the determination of the product-type, for which compliance with this European Standard has been verified.

Once series production is fully established, the provisions of 6.3 shall apply**.**

7 Marking, labelling and packaging

7.1 Marking

Power, control and communication cables shall be marked with:

a) an indication of origin consisting of the marking of the manufacturer’s name or trademark, or (if legally protected) identification number;

b) the product description or code designation;

c) the reaction to fire class.

The marking may be on the cable or on its packaging or on its labelling or any combination of the preceding.

In addition, power, control and communication cables may also be marked with the following elements:

d) any information required by other standards relevant to the product;

e) the year of production;

f) voluntary certification marks;

g) any additional information as wished by the manufacturer provided that it does not conflict with, nor confuse any of the other required marking.

The marking may be on the cable or on its packaging or on its labelling or any combination of the preceding.

Where regulatory marking provisions require information on some or all items listed in this clause, the requirements of this clause concerning those common items are deemed to be met.

7.2 Form of marked elements

When applied on the electric cable, the elements given in 7.1 a), 7.1 b) and 7.1 c) shall be applied by printing, indenting or embossing on the sheath or in the case of unsheathed cables on the insulation. The marking shall be continuous. Each specified marking shall be regarded as continuous if the distance between the end of the marking and the beginning of the next identical marking does not exceed 1 100 mm.

7.3 Legibility of marking

All marking shall be legible. Printed marking shall be non-degradable.

Annex ZZ
(informative)

Clauses of this European Standard addressing the provisions of the EU Construction Products Regulation

ZZ.1 Scope and relevant characteristics

This European Standard has been prepared under the mandate M/443 for "Power, control and communication cables" given to CEN/CENELEC by the European Commission and the European Free Trade Association.

If this European Standard is cited in the Official Journal of the European Union (OJEU), the clauses of this European Standard, shown in this annex, are considered to meet the provisions of the relevant mandate under the Regulation (EU) No. 305/2011.

This annex deals with the CE marking of the power, control and communication cables intended for the uses indicated in Table ZZ.1.and shows the relevant clauses applicable.

This annex has the same scope as in Clause 1 of this European Standard related to the aspect covered by the mandate and is defined by Table ZZ.1.

Table ZZ.1 — Relevant clauses for power, control and communication cables to be used for the supply of electricity and communications

Product: Power, control and communication cables **Intended use:** Supply of electricity and communications in buildings and other civil engineering works with the objective of limiting the generation and spread of fire and smoke			
Essential characteristics	**Clauses in this and other European Standard(s) related to essential characteristics**	**Regulatory classes**	**Notes**
Reaction to fire	4.1		Class
Release of dangerous substances	4.2		

The declaration of the product performance related to certain essential characteristics is not required in those Member States (MS) where there are no regulatory requirements on these essential characteristics for the intended use of the product.

In this case, manufacturers placing their products on the market of these MS are not obliged to determine nor declare the performance of their products with regard to these essential characteristics and the option "No performance determined" (NPD) in the information accompanying the CE marking and in the declaration of performance (see ZZ.3) may be used for those essential characteristics.

ZZ.2 Procedures for AVCP of power, control and communication cables

ZZ.2.1 Systems of AVCP

The AVCP systems of power, control and communication cables indicated in Table ZZ.1, established by EC Decision 2011/284/EU (OJEU L131 of 18.05.2011) is shown in Table ZZ.2 for the indicated intended use(s) and relevant level(s) or class(es).

Table ZZ.2—Systems of AVCP

Product	Intended use	Levels or classes of performance	AVCP system(s)
Power, control and communication cables	For uses subject to regulations on reaction to fire	A_{ca}, $B1_{ca}$, $B2_{ca}$, C_{ca},	1+
		D_{ca}, E_{ca},	3
		F_{ca}	4
System 1+: See Regulation (EU)No. 305/2011 (CPR) Annex V,1.1with audit-testing of samples taken before placing the product on the market. System 3: See Regulation (EU) No. 305/2011 (CPR) Annex V,1.4 System 4: See Regulation (EU) No. 305/2011 (CPR) Annex V,1.5			

The AVCP of the power, control and communication cables in Table ZZ.1 shall be according to the AVCP procedures indicated in Tables ZZ.3.1 to ZZ.3.3 resulting from application of the clauses of this or other European Standard indicated therein. The content of tasks of the notified body shall be limited to those essential characteristics as provided for, if any, in Annex lll of the relevant mandate and to those that the manufacturer intends to declare.

Table ZZ.3.1 — Assignment of AVCP tasks for the power, control and communication cables under system 1+

Tasks		Content of the task	AVCP clauses to apply
Tasks for the manufacturer	Factory production control (FPC)	Parameters related to essential characteristics of Table ZZ.1 relevant for the intended use which are declared	6.3
	Further testing of samples taken at factory according to the prescribed test plan	Essential characteristics of Table ZZ.1 relevant for the intended use which are declared	6.3.2.6
Tasks for the notified product certification body	Determination of the product-type on the basis of type testing (including sampling), type calculation, tabulated values or descriptive documentation of the product	Reaction to fire	6.2
	Initial inspection of the manufacturing plant and of FPC	Parameters related to essential characteristic of Table ZZ.1, relevant for the intended use which are declared, namely reaction to fire. Documentation of the FPC	6.3.4
	Continuous surveillance, assessment and evaluation of FPC	Parameters related to essential characteristic of Table ZZ.1, relevant for the intended use which are declared, namely reaction to fire. Documentation of the FPC	6.3.5
	Audit testing of samples taken before placing the product on the market	Reaction to fire	6.3.5

Table ZZ.3.2 — Assignment of AVCP tasks for the power, control and communication cables under system 3

Tasks		Content of task	AVCP clauses to apply
Tasks for the manufacturer	Factory production control (FPC)	Parameters related to essential characteristics of Table ZZ.1 relevant for the intended use which are declared	6.3
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	Reaction to fire	6.2

Table ZZ.3.3 — Assignment of AVCP tasks for the power, control and communication cables under system 4

Tasks		Content of task	AVCP clauses to apply
Tasks for the manufacturer	Factory production control (FPC)	Parameters related to essential characteristics of Table ZZ.1 relevant for the intended use	6.3
	Determination of the product-type on the basis of type testing, type calculation, tabulated values or descriptive documentation of the product	Essential characteristics of Table ZZ.1 relevant for the intended use which are declared	6.2

ZZ.2.2 Declaration of performance (DoP)

ZZ.2.2.1 General

The manufacturer draws up the DoP and affixes the CE marking on the basis of the different AVCP systems set out in Annex V of the Regulation (EU) No. 305/2011:

In case of products under system 1+:

— the factory production control and the further testing of samples taken at the factory according to the prescribed test plan, carried out by the manufacturer; and:

— the certificate of constancy of performance issued by the notified product certification body on the basis of type testing (including sampling), type calculation, tabulated values or descriptive documentation of the product; initial inspection of the manufacturing plant and of factory production control; continuous surveillance, assessment and evaluation of factory production control and audit-testing of samples taken before placing the product on the market.

In case of products under systems 3:

— the factory production control carried out by the manufacturer; and

— the 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, carried out by the notified testing laboratory.

In case of products under systems 4:

— the factory production control carried out by the manufacturer; and:

— the determination by the manufacturer of the product-type on the basis of type testing, type calculation, tabulated values or descriptive documentation of the product.

ZZ.2.2.2 Content

The model of the DoP is provided in Annex III of the Regulation (EU) No 305/2011.

According to this Regulation, the DoP shall contain, in particular, the following information:

— the reference of the product-type for which the declaration of performance has been drawn up;

— the AVCP system or systems of the construction product, as set out in Annex V of the CPR;

— the reference number and date of issue of the harmonized standard which has been used for the assessment of each essential characteristic.

The DoP shall in addition contain:

(a) the intended use or uses for the construction product, in accordance with the applicable harmonized technical specification;

(b) the list of essential characteristics, as determined in the harmonized technical specification for the declared intended use or uses;

(c) the performance of at least one of the essential characteristics of the construction product, relevant for the declared intended use or uses;

(d) where applicable, the performance of the construction product, by classes;

(e) the performance of those essential characteristics of the construction product which are related to the intended use or uses, taking into consideration the provisions in relation to the intended use or uses where the manufacturer intends the product to be made available on the market;

(f) for the listed essential characteristics for which no performance is declared, the letters "NPD" (No Performance Determined).

Regarding the supply of the DoP, article 7 of the Regulation (EU) No 305/2011 applies. The information referred to in Article 31 or, as the case may be, in Article 33 of Regulation (EC) No 1907/2006, (REACH) shall be provided together with the DoP.

ZZ.2.2.3 Example of DoP

The following gives an example of a filled-in DoP:

DECLARATION OF PERFORMANCE
No. XXXX ***No. to be given by the manufacturer***

1. Unique identification code of the product-type: ……. ***To be given by the manufacturer***

2. Type, batch or serial number or any other element allowing identification of the construction product as required under Article 11(4): ***To be given by the manufacturer***

3. Intended use or uses of the construction product, in accordance with the applicable harmonized technical specification, as foreseen by the manufacturer:
Supply of electricity in buildings and other civil engineering works with the objective of limiting the generation and spread of fire and smoke

4. Name, registered trade name or registered trade mark and contact address of the manufacturer as required under Article 11(5):
AnyCo SA,
PO Box 21
B-1050 Brussels, Belgium
Tel. +32987654321
Fax: +32123456789
Email: anyco.sa@provider.be

5. Where applicable, name and contact address of the authorized representative whose mandate covers the tasks specified in Article 12(2):
Anyone Ltd
Flower Str. 24
West Hamfordshire
UK-589645 United Kingdom
Tel. +44987654321
Fax: +44123456789
e-mail: anyone.ltd@provider.uk

6. System or systems of assessment and verification of constancy of performance of the construction product as set out in CPR, Annex V***:*** ***System 1+***

7. In case of the declaration of performance concerning a construction product covered by a harmonized standard:
Notified product certification body No. XXXX performed the determination of product type, the initial inspection of the manufacturing plant and of FPC, the continuous surveillance, assessment and evaluation of the FPC and the audit testing of samples taken before placing the product on the market and issued the certificate of constancy of performance

8. Declared performance

Essential characteristics	***Performance***	***Harmonized technical specification***
Reaction to fire	**$B2_{ca}$ -s1,d1,a1**	**EN50575:2014**
Dangerous substances		

9. The performance of the product identified in points 1 and 2 is in conformity with the declared performance in point 8.

This declaration of performance is issued under the sole responsibility of the manufacturer identified in point 4.

Signed for and on behalf of the manufacturer by:

……
(name and function)

…… ……
(place and date of issue) (signature)

ZZ.3 CE marking and labelling

The CE marking symbol shall be in accordance with the general principles set out in Article 30 of Regulation (EC) No. 765/2008 and shall be affixed visibly, legibly and indelibly to the product labels affixed to the reels, coils or drums of the power, control and communication cables.

The CE marking shall be followed by:

— the last two digits of the year in which it was first affixed;

— the name and the registered address of the manufacturer, or the identifying mark allowing identification of the name and address of the manufacturer easily and without ambiguity;

— the unique identification code of the product-type;

— the reference number of the declaration of performance;

— the class of the performance declared;

— the dated reference to the harmonized technical specification applied;

— the identification number of the notified body;

— the intended use as laid down in the applied harmonized technical specification.

The CE marking shall be affixed before the construction product is placed on the market. It may be followed by a pictogram or any other mark notably indicating a special risk or use.

Figure ZZ.1 gives an example of the information related to power, control and communications cables subject to AVCP system 1+, to be given on the product label.

Figure ZZ.2 gives an example of the information related to power, control and communications cables subject to AVCP system 3, to be given on the product label.

Figure ZZ.3 gives an example of the information related to power, control and communications cables subject to AVCP system 4, to be given on the product label.

CE **XXXX**	*CE marking, consisting of the "CE"-symbol* *Identification number of the product certification body*
AnyCo Ltd, PO Box 21, B-1050, Brussels, Belgium **14** **(To be given by the manufacturer)**	*Name and the registered address of the manufacturer, or identifying mark* *Last two digits of the year in which the marking was first affixed* *Reference number of the DoP*
EN 50575:2014 **(To be given by the manufacturer)** **Supply of electricity in buildings and other civil engineering works with the objective of limiting the generation and spread of fire and smoke** **Reaction to Fire: $B2_{ca}$-s1,d1,a1** **Dangerous substances: none**	*No. of European Standard applied, as referenced in OJEU* *Unique identification code of the product-type* *Intended use of the product as laid down in the European Standard applied* *Class of performance*

Figure ZZ.1 — Example of CE marking information on the product label for products subject to AVCP system 1+

CE **XXXX**	*CE marking, consisting of the "CE"-symbol* *Identification number of the notified test laboratory*
AnyCo Ltd, PO Box 21, B-1050, Brussels, Belgium **14** **(To be given by the manufacturer)**	*Name and the registered address of the manufacturer, or identifying mark* *Last two digits of the year in which the marking was first affixed* *Reference number of the DoP*
EN 50575:2014 **(To be given by the manufacturer)** **Supply of electricity in buildings and other civil engineering works with the objective of limiting the generation and spread of fire and smoke** **Reaction to Fire: E** **Dangerous substances: none**	*No. of European Standard applied, as referenced in OJEU* *Unique identification code of the product-type* *Intended use of the product as laid down in the European Standard applied* *Class of performance*

Figure ZZ.2 — Example of CE marking information on the product label for products subject to AVCP system 3

CE	*CE marking, consisting of the "CE"-symbol*
AnyCo Ltd, PO Box 21, B-1050, Brussels, Belgium **14** **(To be given by the manufacturer)**	*Name and the registered address of the manufacturer, or identifying mark* *Last two digits of the year in which the marking was first affixed* *Reference number of the DoP*
EN 50575:2014 **(To be given by the manufacturer)** **Supply of electricity in buildings and other civil engineering works with the objective of limiting the generation and spread of fire and smoke** **Reaction to Fire: F** **Dangerous substances: none**	*No. of European Standard applied, as referenced in OJEU* *Unique identification code of the product-type* *Intended use of the product as laid down in the European Standard applied* *Class of performance*

Figure ZZ.3 — Example of CE marking information on the product label for products subject to AVCP system 4

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