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STN	**Elektrické káble. Rozšírená aplikácia výsledkov skúšok reakcie na oheň.**	**STN P CLC/TS 50576** 34 7111

Electric cables - Extended application of test results for reaction to fire

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

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English Version

Electric cables - Extended application of test results for reaction to fire

Câbles électriques - Application étendue des résultats d'essai

Kabel und Leitungen - Erweiterte Anwendung von Prüfergebnissen

This Technical Specification was approved by CENELEC on 2016-10-10.

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European Committee for Electrotechnical Standardization
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CLC/TS 50576:2016 (E)

European foreword

This document (CLC/TS 50576:2016) has been prepared by CLC/TC 20 “Electric cables”.

The following date is proposed:

- latest date by which the existence of this document has to be announced at national level (doa) [2017-04-10]

This document supersedes CLC/TS 50576:2014.

This document has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association.

This document is meant to be used in conjunction with EN 50575 in order to evaluate the reaction to fire performance of power, control and communication cables.

NOTE For the purposes of this Technical Specification, the term 'electric cables' also covers optical fibre cables.

Introduction

The original project “CEMAC – CE marking of cables” was carried out over a three year period. It brought together cable manufacturers, research and testing laboratories, and research establishments in creating the technical background and developing rules and procedures for extended application of test results (EXAP). More than 200 tests to EN 50399 on more than 100 cables were carried out as part of the project. The final report [1] was published in 2010 and the EXAP rules and procedures developed by the CEMAC project have been used as the basis for this Technical Specification.

A specific EXAP procedure and rules based on the use of safety margins and a cable parameter derived from the extensive CEMAC tests was developed for the most common generic types of power cables used in the European market.

A general EXAP procedure and rules based upon a statistical treatment of the actual test results obtained from a cable family was also developed for any power cables. However, the use of this general procedure and rules will generally require more tests to be carried out than the use of the specific procedure and rules.

Since the CEMAC project report was completed in 2010, the project has been extended to further investigate the performance of optical fibre cables and rules and procedures developed for extended application of test results for these products. An additional report [2] was published in 2015 and the EXAP rules and procedures developed by the further CEMAC project work have been used as the basis for the 2016 revision of this Technical Specification.

General guidance on direct and extended application may be found in CEN/TS 15117 [3].

1 Scope

This Technical Specification gives the procedure and rules for extended application of results of tests carried out according to the test methods described in EN 50399, EN 60332-1-2 and EN 61034-2.

The EXAP rules described apply to EN 50399 test results used for classification in classes $B2_{ca}$,C_{ca} and D_{ca}, additional smoke production classes s1, s2 and s3 and flaming droplets/particles, to EN 60332-1-2 test results used for classification in classes $B2_{ca}$,$C_{ca,}$ D_{ca} and E_{ca} and to EN 61034-2 test results used for classification in classes s1a and s1b.

Cables of diameter 5,0 mm and less should be tested as bundles according to EN 50399. Bundled cables are not included in the EXAP rules applying to EN 50399 test results.

The rules apply to circular and non-circular cables provided that they fall within the scope of the relevant test method.

A specific EXAP rule has been developed for the most common generic power cable families and optical fibre cables. A general EXAP rule has been developed for any power cable families. The general EXAP rule is not applicable to communication or optical fibre cables.

NOTE 1 Multicore power cables with more than 5 cores are sometimes referred to as control cables with a rated voltage but for the purposes of this Technical Specification are considered as power cables.

The general EXAP rule may be applied in the case of hybrid cables provided that the conditions of 6.1 are fulfilled.

The use of the specific EXAP rule gives benefit in the lower number of cables to be tested for a range of cable constructions (product family).

An EXAP is only possible when cables belong to a defined family as defined in this Technical Specification.

NOTE 2 No EXAP procedure and rules have been developed in respect of the results of tests carried out according to the test method described in EN 60754–2. As the parameters (pH and conductivity) for each cable in a family are determined based upon calculation using material test results, this is considered as a matter of direct application. Material test results taken from any one sample of finished cable from a family are sufficient to calculate the parameters for each cable in the family.

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