SLOVENSKI STANDARD
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Communication cables - Specifications for test methods - Part 1-3: Electrical test methods - Dielectric strength

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Kommunikationskabel - Spezifikationen für Prüfverfahren -- Teil 1-3: Elektrische Prüfverfahren - Spannungsfestigkeit des Dielektrikums

Câbles de communication - Spécifications des méthodes d'essai -- Partie 1-3: Méthodes d'essais électriques - Rigidité diélectrique

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ICS:

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English version

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CENELEC
European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

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Foreword

This European Standard was prepared by SC 46XC, Multicore, Multipair and Quad Data communication cables, of Technical Committee CENELEC TC 46X, Communication cables.

The text of the draft was submitted to the formal vote and was approved by CENELEC as EN 50289-1-3 on 2000-12-01.

The following dates were fixed:

- latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2002-01-01

- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2004-01-01

This European Standard has been prepared under the European Mandate M/212 given to CENELEC by the European Commission and the European Free Trade Association.

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1 Scope

This Part 1-3 of EN 50289 details the test methods to verify the dielectric strength of the insulation of the finished cables used in analogue and digital communication systems.

It is to be read in conjunction with Part 1-1 of EN 50289, which contains essential provisions for its application.

2 Normative references

This European Standard 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 hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

EN 50289-1-1	2001	Communication cables - Specifications for tests methods -- Part 1-1: Electrical test methods - General requirements
EN 50290-1-2[1)]		Communication cables -- Part 1-2: Definitions

3 Definitions

For the purposes of this European Standard the definitions given in EN 50290-1-2 apply in addition to the following ones.

3.1
group test
the group test for multi-element cables (if applicable) is the test between two specified groups of conductors each of which has all its conductors connected together :

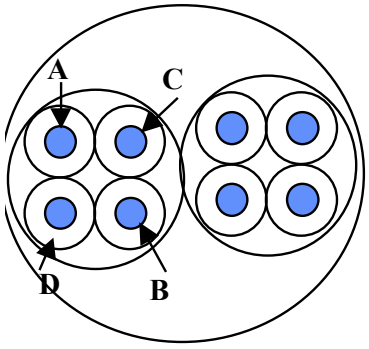

Figure 1 – Starquads

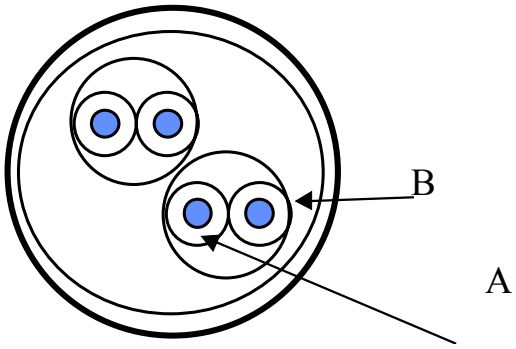

Figure 2 – Pairs

Table 1

	Pairs	Starquads
Group I	Wires A	Wires A,C
Group II	Wires B	Wires B,D

[1)] At draft stage

4 Test method

4.1 Test voltages

The test shall be performed with AC or DC voltage in accordance with the relevant specification.

4.2 Equipment

The test equipment shall be capable of providing the energy and measuring the voltages required to test a complete delivery length. A protective resistance of adequately high value shall be connected in the circuit supplying the required test voltage to the cable under test (CUT).

4.3 Test sample

Both ends of the CUT shall be prepared such that, when the specified voltage is supplied to the conductors/screen for test, there shall be no breakdown or significant partial discharges at the terminations.

4.4 Procedure

The test shall be carried out on the CUT after the continuity or the conductor resistance test. The voltage shall be applied at a rate not exceeding 1 kV/s up to the voltage specified. The cable shall be deemed to pass when the specified voltage is maintained for the period of time specified in the relevant cable standard.

4.4.1 Symmetric cables

The test shall be carried out on the CUT connected to the test equipment as follows :

– core test
group „I“ against group „II“, one group earthed;

– screen test
group „I“ together with „II“ against screen, screen earthed.

4.4.2 Multi-conductor cables

The test shall be carried out on the CUT connected to the test equipment as follows :

- core test
each conductor against all the other conductors (all other conductors connected together) or a group test may be performed if practical;

- screen test
all conductors against the screen, screen earthed.

4.4.3 Coaxial cables

The CUT shall be connected to the test equipment as follows :

– inner conductor against outer conductor, outer conductor earthed except for armoured cables.

4.4.4 Armoured cables

If a dielectric strength test *for the bedding of armoured cables* is required, the test shall be carried out as for a screened cable unless otherwise specified.

5 Expression of test results

The value of the test voltage and the period of time of testing are specified in the relevant cable specification.

6 Test report

The test report shall record whether the CUT has passed or failed the dielectric strength test.

Details of any group testing shall be included in the test report.