SLOVENSKI STANDARD

SIST HD 597 S1:2001

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Coupling capacitors and capacitor dividers

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Descriptors: Power capacitor, coupling capacitor, capacitor voltage divider, test

ENGLISH VERSION

COUPLING CAPACITORS AND CAPACITOR DIVIDERS (IEC 358:1990)

Condensateurs de couplage et diviseurs capacitifs (CEI 358:1990)

Kopplungskondensatoren und kapazitive Teiler (IEC 358:1990)

This Harmonization Document was approved by CENELEC on 1991-12-10. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for implementation of this Harmonization Document on a national level.

Up-to-date lists and bibliographical references concerning national implementation may be obtained on application to the Central Secretariat or to any CENELEC member.

This Harmonization Document exists in three official versions (English, French, German).

CENELEC members are the national electrotechnical committees of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

CENELEC

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

Central Secretariat: rue de Stassart 35, B-1050 Brussels

FOREWORD

The CENELEC questionnaire procedure, performed for finding out whether or not the International Standard IEC 358:1990 could be accepted without textual changes, has shown that no CENELEC common modifications were necessary for the acceptance as Harmonization Document.
The reference document was submitted to the CENELEC members for formal vote and was approved by CENELEC as HD 597 S1 on 10 December 1991.

The following dates were fixed:

- latest date of announcement of the HD at national level	(doa)	1992-06-01
- latest date of publication of a harmonized national standard	(dop)	1992-12-01
- latest date of withdrawal of conflicting national standards	(dow)	1992-12-01

For products which have complied with the relevant national standard before 1992-12-01, as shown by the manufacturer or by a certification body, this previous standard may continue to apply for production until 1997-12-01.

Annexes designated "normative" are part of the body of the standard.
In this standard, annex ZA is normative.

ENDORSEMENT NOTICE

The text of the International Standard IEC 358:1990 was approved by CENELEC as a Harmonization Document without any modification.

ANNEX ZA (normative)

OTHER INTERNATIONAL PUBLICATIONS QUOTED IN THIS STANDARD WITH THE REFERENCES OF THE RELEVANT EUROPEAN PUBLICATIONS

When the international publication has been modified by CENELEC common modifications, indicated by (mod), the relevant EN/HD applies.

IEC Publication	Date	Title	EN/HD	Date
71-2	1976	Part 2: Application guide	HD 540.2 S1	1991
110	1973	Recommendation for capacitors for inductive heat generating plants operating at frequencies between 40 and 24 000 Hz	HD 207 S1	1977
143	1972	Series capacitors for power systems	HD 339 S1	1977
186	1987	Voltage transformers	-	-
233	1974	Tests on hollow insulators for use in electrical equipment	HD 329 S1	1977
252	1975	A.C. motor capacitors	-	-
270	1981	Partial discharge measurements	-	-
507	1975	Artificial pollution test on high-voltage insulators to be used on a.c. systems	-	-
566	1982	Capacitors for use in tubular fluorescent and other discharge lamp circuits	-	-
815	1986	Guide for the selection of insulators in respect of polluted conditions	-	-
831	-	Shunt power capacitors of the self-healing type for a.c. systems having a rated voltage up to and including 660 V	-	-
871	Series	Shunt capacitors for a.c. power systems having a rated voltage above 660 V	HD 525	Series
931	-	Shunt power capacitors of the non self-healing type for a.c. systems having a rated voltage up to and including 660 V	-	-

C E N E L E C
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Central Secretariat

CORRIGENDUM to HD 597 S1:1992

English version

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Add:

50(436)	1990	International Electrotechnical Vocabulary (IEV) Chapter 436: Power Capacitors	-	-
60		High-voltage test techniques	-	-
71		Insulation co-ordination		
71-1	1976	Part 1: Terms, definitions, principles and rules	-	-

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March 1992

NORME INTERNATIONALE

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Deuxième édition
Second edition
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Condensateurs de couplage et diviseurs capacitifs

Coupling capacitors and capacitor dividers

Bureau Central de la Commission Electrotechnique Internationale 3, rue de Varembé Genève, Suisse

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International Electrotechnical Commission
Международная Электротехническая Комиссия

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

COUPLING CAPACITORS AND CAPACITOR DIVIDERS

FOREWORD

1) The formal decisions or agreements of the IEC on technical matters, prepared by Technical Committees on which all the National Committees having a special interest therein are represented, express, as nearly as possible, an international consensus of opinion on the subjects dealt with.

2) They have the form of recommendations for international use and they are accepted by the National Committees in that sense.

3) In order to promote international unification, the IEC expresses the wish that all National Committees should adopt the text of the IEC recommendation for their national rules in so far as national conditions will permit. Any divergence between the IEC recommendation and the corresponding national rules should, as far as possible, be clearly indicated in the latter.

4) The IEC has not laid down any procedure concerning marking as an indication of approval and has no responsibility when an item of equipment is declared to comply with one of its recommendations.

PREFACE

This standard has been prepared by IEC Technical Committee No. 33: Power capacitors.

This second edition replaces the first edition of IEC Publication 358, issued in 1971.

The text of this standard is based upon the following documents:

Six Months' Rule	Report on Voting
33(CO)74/74A	33(CO)82

Full information on the voting for the approval of this standard can be found in the Voting Report indicated in the above table.

The following IEC publications are quoted in this standard:

Publications Nos. 50 (436): International Electrotechnical Vocabulary (IEV), Chapter 436: Power Capacitors. (In preparation.)

60: High-voltage test techniques.

71: Insulation co-ordination.

71-1 (1976): Part 1: Terms, definitions, principles and rules.

71-2 (1976): Part 2: Application guide.

110 (1973): Recommendation for capacitors for inductive heat generating plants operating at frequencies between 40 and 24 000 Hz.

143 (1972): Series capacitors for power systems.

186 (1987): Voltage transformers.

233 (1974): Tests on hollow insulators for use in electrical equipment.

252 (1975): A.C. motor capacitors.

270 (1981): Partial discharge measurements.

507 (1975): Artificial pollution tests on high-voltage insulators to be used on a.c. systems.

566 (1982): Capacitors for use in tubular fluorescent and other discharge lamp circuits.

815 (1986): Guide for the selection of insulators in respect of polluted conditions.

831: Shunt power capacitors of the self-healing type for a.c. systems having a rated voltage up to and including 660 V.

871: Shunt capacitors for a.c. power systems having a rated voltage above 660 V.

931: Shunt power capacitors of the non self-healing type for a.c. systems having a rated voltage up to and including 660 V.

COUPLING CAPACITORS AND CAPACITOR DIVIDERS

SECTION ONE - GENERAL

1. Scope

This standard is applicable to:

a) coupling capacitors for power line carrier (PLC) systems on high voltage overhead power lines, the power-frequency range being 15 Hz to 60 Hz, and the carrier frequency range 30 kHz to 500 kHz;

b) capacitor dividers of capacitor voltage transformers. Additional requirements for capacitor voltage transformers are given in IEC Publication 186;

c) capacitors with one terminal either permanently earthed or at low voltage as used for overvoltage protection and other similar uses.

Notes 1.- Diagrams of capacitors to which this standard applies are given in Figures A1 to A4 in Appendix A.

2.- The following capacitors are excluded from this standard:

- shunt capacitors for a.c. power systems having a rated voltage above 660 V (IEC Publication 871);
- shunt power capacitors of the self-healing type for a.c. systems having a rated voltage up to and including 660 V (IEC Publication 831);
- shunt power capacitors of the non self-healing type for a.c. systems having a rated voltage up to and including 660 V (IEC Publication 931);
- capacitors for inductive heat generating plants operating at frequencies between 40 and 24 000 Hz (IEC Publication 110);
- series capacitors (IEC Publication 143);
- capacitors for motor applications and the like (IEC Publication 252);
- capacitors to be used in power electronics circuits (IEC Publication under consideration);

- capacitors for use in tubular fluorescent and other discharge lamp circuits (IEC Publication 566);
- capacitors for suppression of radio interference (IEC Publication 384-14);
- capacitors intended to be used in various types of electrical equipment and therefore considered as components;
- capacitors intended for use with d.c. voltage superimposed on the a.c. voltage.

2. Object

The object of this standard is:

a) to formulate uniform rules regarding performance, testing and rating;

b) to formulate specific safety rules;

c) to provide a guide for installation and operation.

3. Definitions

3.1 *Capacitor element (or element)*

A device consisting essentially of two electrodes separated by a dielectric (IEV 436-01-03*).

3.2 *Capacitor unit (or unit)*

An assembly of one or more capacitor elements in the same container with terminals brought out (IEV 436-01-04).

Notes 1.- A common type of unit for coupling capacitors has a cylindrical housing of insulating material and metal end flanges which serve as terminals.

2.- Units in metal containers usually have one terminal connected to the container and the other brought out through a bushing.

3.3 *Capacitor stack (or stack)*

An assembly of capacitor units connected in series (IEV 436-01-05).

Note.- The capacitor units are usually mounted in a vertical array.

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* IEC Publication 50(436) (in preparation).