

Elektriliste katsetuspaigaldiste ehitamine ja käit
Erection and operation of electrical test equipment

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EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 50191:2007 sisaldab Euroopa standardi EN 50191:2000 ingliskeelset teksti.

Standard on kinnitatud Eesti Standardikeskuse 15.01.2003 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.

Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 12.09.2000.

Standard on kättesaadav Eesti standardiorganisatsioonist.

This Estonian standard EVS-EN 50191:2007 consists of the English text of the European standard EN 50191:2000.

This standard is ratified with the order of Estonian Centre for Standardisation dated 15.01.2003 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.

Date of Availability of the European standard text 12.09.2000.

The standard is available from Estonian standardisation organisation.

ICS 19.080, 29.020

Võtmesõnad: ehitamine, elektriline katsetuspaigaldis, käit

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EUROPEAN STANDARD

EN 50191

NORME EUROPÉENNE

EUROPÄISCHE NORM

September 2000

ICS 29.020; 19.080

English version

Erection and operation of electrical test equipment

Installation et exploitation des
équipements électriques d'essais

Errichten und Betreiben elektrischer
Prüfanlagen

This European Standard was approved by CENELEC on 1999-10-01. CENELEC 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 Central Secretariat or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

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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 text of this European Standard, prepared by CENELEC BTTF 85-1, Erection and operation of electrical test equipment, was submitted to the formal vote and was approved by CENELEC as EN 50191 on 1999-10-01.

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) 2001-03-01
- latest date by which the national standards conflicting
with the EN have to be withdrawn (dow) 2002-10-01

Annexes designated "normative" are part of the body of the standard.
Annexes designated "informative" are given for information only.
In this standard, annex A is normative and annex B is informative.

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Introduction

With reference to clause 5, the user of this EN, prepared in the field of application of Article 118 A of the EC Treaty, should be aware that standards have no formal legal relationship with Directives which may have been made under Article 118 A of the Treaty. In addition, national legislation in the Member states may contain more stringent requirements than the minimum requirements of a Directive based on Article 118 A. Information on the relationship between the national legislation implementing Directives based on Article 118 A and this EN may be given in a national foreword of the national standard implementing this EN.

1 Scope

1.1 This standard is applicable to the erection and operation of fixed and temporary electrical test installations.

1.2 Compliance with this standard is not necessary, if contact with live parts presents no danger. This is the case when one of the following conditions is satisfied at live exposed points:

- a) The voltage at frequencies above 500 Hz does not exceed 25 V a.c. or 60 V d.c. and complies with the requirements for SELV or for PELV in accordance with HD 384.4.41.
- b) In case of voltages at frequencies up to 500 Hz exceeding 25 V a.c. or 60 V d.c., the resultant current through a non-inductive resistance of 2 k Ω does not exceed 3 mA a.c. (r.m.s.) or 12 mA d.c.
- c) At frequencies above 500 Hz no hazardous body currents or contact voltages occur. In these cases the national determined current and voltage values should be applied. If there are no national requirements determined reference values for permissible body currents and contact voltages can be taken from Table A.1 in Annex A.
- d) The discharge energy does not exceed 350 mJ.

Even though compliance with this standard is not necessary if one of the above-mentioned conditions is satisfied, other potential risks shall be considered and appropriate measures put into place to obviate the risks.

1.3 This standard does not apply to the power supply to the test installations. In this case, the standards of the HD 384 series (for nominal voltages up to 1000 V) or HD 637 S1 (for nominal voltages exceeding 1 kV) are applicable to erection and EN 50110-1 is applicable to operation.

1.4 Where no requirements are given in this standard, the standards of the HD 384 series (for nominal voltages up to 1000 V) or HD 637 S1 (for nominal voltages exceeding 1 kV) apply to the erection of electrical test installations and EN 50110-1 applies to the operation of electrical test installations.

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.

EN 294	Safety of machinery - Safety distance to prevent danger zones being reached by the upper limbs
EN 418	Safety of machinery - Emergency stop equipment, functional aspects - Principles for design
EN 574	Safety of machinery - Two-hand control devices - Functional aspects - Principles for design
EN 50110-1	Operation of electrical installations
EN 60529	Degrees of protection provided by enclosures (IP Code) (IEC 60529)
EN 61219	Live working - Earthing or earthing and short-circuiting equipment using lances as short-circuiting device - Lance earthing (IEC 61219)
EN 61310-1	Safety of machinery - Indication, marking and actuation -- Part 1: Requirements for visual, auditory and tactile signals (IEC 61310-1)

EN 61558	Safety of power transformers, power supply units and similar (IEC 61558 series)
HD 366	Classification of electrical and electronic equipment with regard to protection against electric shock (IEC 60536)
HD 384 series	Electrical installations of buildings (IEC 60364 series, modified)
HD 637 S1	Power installations exceeding 1 kV a.c.
IEC 60050-826	International Electrotechnical Vocabulary -- Chapter 826: Electrical installations of buildings

3 Definitions

For the purpose of this standard, the following definitions apply:

3.1

electrical test installations

(referred to in the following as **test installations**)

the entirety of all the test appliances and devices combined for test purposes, by means of which electrical tests are performed on test objects

Test installations may be designed and erected or installed as:

- test station;
- test laboratory or experimental station;
- temporary test installations.

3.2

test station

appropriately identified test installations within a defined area in which only one or two persons are generally employed on test work, e.g. in the line of series production or in electric workshops, repair and service shops

In test stations a distinction is made between those with and those without automatic protection against direct contact.

3.2.1

test station with automatic protection against direct contact

a test station in which the test object and all live parts of the test apparatus have automatically activated full protection against direct contact in an energized condition

NOTE Automatic protection means that voltages can only occur when the safety devices are effective, e.g. when the cover or door of the test station is closed.

3.2.2

test station without automatic protection against direct contact

a test station in which parts of the test object or live parts of the test apparatus are not fully protected against direct contact during testing. This includes, for instance, test areas in electric workshops, laboratories, measurement and experimental areas

3.3

test laboratory

test installations in a securely enclosed space or within an area separated from adjacent work areas, in which several persons are generally employed on test work on larger test objects remaining there for a longer period of time

A test laboratory may be subdivided into test areas in which mutually independent tests are performed.

3.4

experimental station

test installations for performing experiments or tests within the scope of research and development work. In general, no routine tests are performed in experimental stations. A variety of test assemblies as well as different hazards shall therefore be anticipated

An experimental station may be subdivided into sections in which mutually independent experiments or tests are carried out.