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## ELECTRICALLY INSULATING HELMETS FOR USE ON LOW VOLTAGE INSTALLATIONS

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EUROPEAN STANDARD

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English version

## **Electrically insulating helmets for use on low voltage installations**

Casques électriquement isolants  
pour utilisation sur installations  
à basse tension

Elektrisch isolierende Helme für Arbeiten  
an Niederspannungsanlagen

This European Standard was approved by CENELEC on 2001-07-01. 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.

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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

This European Standard was prepared by the Technical Committee CENELEC TC 78, Equipment and tools for live working.

The text of the draft was submitted to the Unique Acceptance Procedure and was approved by CENELEC as EN 50365 on 2001-07-01.

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) 2002-11-01
- latest date by which the national standards conflicting  
with the EN have to be withdrawn (dow) 2004-08-01

Annexes designated "normative" are part of the body of the standard.

Annexes designated "informative" are given for information only.

In this standard, annexes A, B, C and ZA are normative and annex D is informative.

This European Standard 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 89/686/EEC.

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## 1 Scope

This standard is applicable to electrically insulating helmets used for working live or close to live parts on installations not exceeding 1 000 V a.c. or 1 500 V d.c.

These helmets, when used in conjunction with other electrically insulating protective equipment prevent dangerous current from passing through persons via their head.

## 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 397:1995 + A1:2000	Industrial safety helmets
EN 443:1997	Helmets for fire fighters
EN 960:1994 + A1:1998	Headforms for use in the testing of protective helmets
EN 60060-2:1994 + A11:1998	High-voltage test techniques -- Part 2: Measuring systems (IEC 60062-2:1994)
EN 60529:1991 + A1:2000	Degrees of protection provided by enclosures (IP Code)
EN/ISO 9000 (Series)	Quality management and quality assurance standards
HD 437 S1:1984	Standard conditions for use prior to and during the testing of solid electrical insulating materials (IEC 60212:1971)
HD 588.1 S1:1991	High-voltage test techniques -- Part 1: General definitions and test requirements (IEC 60060-1:1989 + corrigendum March 1990)
IEC 60050-151:2001	International Electrotechnical Vocabulary -- Part 151: Electrical and magnetic devices
IEC 61318:1994	Live working - Guidelines for quality assurance plans
ISO 2859-1:1999	Sampling procedures for inspection by attributes -- Part 1: Sampling schemes indexed by acceptance quality limit (AQL) for lot-by-lot inspection
ISO 2859-2:1985	Sampling procedures for inspection by attributes -- Part 2: Sampling plans indexed by limiting quality (LQ) for isolated lot inspection
ISO/DIS 6344-1:1998	Coated abrasives – Grain size analysis -- Part 1: Grain size distribution test

### 3 Definitions

#### 3.1

##### **electrically insulating helmet**

a safety helmet which protects the wearer against electrical shocks by preventing the passage of dangerous current through the body via the head

#### 3.2

##### **type test**

a test performed on one or more devices made to a certain design to show that the design meets certain specifications [IEV 151-04-15]

#### 3.3

##### **sampling test**

a test performed on a number of devices taken at a random from a batch [IEV 151-04-17]

#### 3.4

##### **acceptance test**

a contractual test to prove the customer that the device meets certain conditions of its specification [IEV 151-04-20]

#### 3.5

##### **proof test voltage**

a specified value of voltage that is applied to a device, item or component for the time defined under specified conditions to assure that the electrical strength of the insulation is above a specified value

#### 3.6

##### **withstand test voltage**

a specified value of voltage that a device, item or component must withstand without flashover, disruptive discharge, puncture or other electric failure when that value of voltage is applied under specified conditions

### 4 Classification

Helmets used on or near electrical installations shall be classified in

- electrical class 0 for installations with nominal voltage up to 1 000 V a.c. and 1 500 V d.c.

### 5 Requirements

#### 5.1 General

Insulating helmets shall fulfil the requirements of EN 397 or EN 443.

#### 5.2 Non-electrical requirements

Insulating helmets shall not consist of conductive parts (see 6.2.1).

The design of air-conditioning holes – if any – shall prevent accidental contact with live parts and provide a degree of protection IP3X (see 6.2.2).

#### 5.3 Electrical requirements

Insulating helmet shell shall pass a proof voltage test and a withstand voltage test according to 6.3.

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