SLOVENSKI STANDARD
SIST EN ISO 13297:2018

01-december-2018

Nadomešča:
SIST EN ISO 13297:2015

Mala plovila - Električni sistemi - Inštalacije za izmenični tok (ISO 13297:2014)

Small craft - Electrical systems - Alternating current installations (ISO 13297:2014)

Kleine Wasserfahrzeuge - Elektrische Systeme - Wechselstromanlagen (ISO 13297:2014)

Petits navires - Systèmes électriques - Installations à courant alternatif (ISO 13297:2014)

Ta slovenski standard je istoveten z: EN ISO 13297:2018

ICS:

47.020.60	Električna oprema ladij in konstrukcij na morju	Electrical equipment of ships and of marine structures
47.080	Čolni	Small craft

SIST EN ISO 13297:2018 **en,fr,de**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 13297

October 2018

ICS 47.080

Supersedes EN ISO 13297:2014

English Version

Small craft - Electrical systems - Alternating current installations (ISO 13297:2014)

Petits navires - Systèmes électriques - Installations à courant alternatif (ISO 13297:2014)

Kleine Wasserfahrzeuge - Elektrische Systeme - Wechselstromanlagen (ISO 13297:2014)

This European Standard was approved by CEN on 16 April 2018.

CEN 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 CEN-CENELEC Management Centre or to any CEN 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 CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.

EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

Contents

Page

European foreword

The text of ISO 13297:2014 has been prepared by Technical Committee ISO/TC 188 “Small craft” of the International Organization for Standardization (ISO) and has been taken over as EN ISO 13297:2018.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by April 2019, and conflicting national standards shall be withdrawn at the latest by April 2019.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN ISO 13297:2014.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive 2013/53/EU.

For relationship with EU Directive 2013/53/EU, see informative Annex ZA, which is an integral part of this document.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Endorsement notice

The text of ISO 13297:2014 has been approved by CEN as EN ISO 13297:2018 without any modification.

Annex ZA
(informative)

Relationship between this European Standard and the Essential Requirements of Directive 2013/53/EU aimed to be covered

This European standard has been prepared under a Commission's standardization request M/542 C(2015) 8736 final to provide one voluntary means of conforming to Essential Requirements of Directive 2013/53/EU.

Once this standard is cited in the Official Journal of the European Union under that Directive, compliance with the normative clauses of this standard given in Table ZA.1 confers, within the limits of the scope of this standard, a presumption of conformity with the corresponding Essential Requirements of that Directive and associated EFTA regulations.

Table ZA.1 — Correspondence between this European Standard and Annex I of Directive 2013/53/EU

Essential Requirements of Directive 2013/53/EU	Clause(s)/sub-clause(s) of this EN	Remarks/Notes
Annex I, Part A, 5.3 - Electrical systems	All clauses, Annex A	The scope of this standard is limited to the design, construction and installation of single phase alternating current (AC) electrical systems which operate at nominal voltages of less than 250 V. This standard does not deal with batteries and ventilation to prevent the accumulation of explosive gases.
Annex I, Part A, 5.6.1 - Fire protection; general	Clause 11.12	In respect of routing electrical conductors away from exhaust components and heat sources.
Annex I, Part A, 2.5 - Owner's manual	Annex B	

WARNING 1 — Presumption of conformity stays valid only as long as a reference to this European Standard is maintained in the list published in the Official Journal of the European Union. Users of this standard should consult frequently the latest list published in the Official Journal of the European Union.

WARNING 2 — Other Union legislation may be applicable to the product(s) falling within the scope of this standard.

INTERNATIONAL STANDARD

ISO 13297

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Small craft — Electrical systems — Alternating current installations

Petits navires — Systèmes électriques — Installations à courant alternatif

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Contents

Page

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: Foreword - Supplementary information

The committee responsible for this document is ISO/TC 188, *Small craft*.

This fourth edition cancels and replaces the third edition (ISO 13297:2012), of which it constitutes a minor revision. The main changes are:

— deletion of Annex E;

— replacement of Annex D;

— correction of references in 14.1 indent e) by replacing 4.8 with 4.7 and in 14.3 by replacing 4.6 with 4.7;

— update of reference to ISO 10133.

Small craft — Electrical systems — Alternating current installations

IMPORTANT — The colours represented in the electronic file of this document can be neither viewed on screen nor printed as true representations. Although the copies of this document printed by ISO have been produced to correspond (with an acceptable tolerance as judged by the naked eye) to the requirements of ISO 3864-4, it is not intended that these printed copies be used for colour matching. Instead, consult ISO 3864-4, which provides colorimetric and photometric properties together with, as a guideline, references from colour order systems.

1 Scope

This International Standard specifies the requirements for the design, construction and installation of low-voltage alternating current electrical systems which operate at nominal voltages of less than 250 V single phase on small craft of hull length up to 24 m.

Additional information to be included in the owner's manual is listed in Annex B.

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.

ISO 7010, *Graphical symbols — Safety colours and safety signs — Registered safety signs*

ISO 8846, *Small craft — Electrical devices — Protection against ignition of surrounding flammable gases*

ISO 10133, *Small craft — Electrical systems — Extra-low-voltage d.c. installations*

ISO 10240, *Small craft — Owner's manual*

IEC 60079-0, *Explosive atmospheres — Part 0: General requirements*

IEC 60309-2, *Plugs, socket-outlets and couplers for industrial purposes — Part 2: Dimensional interchangeability requirements for pin and contact-tube accessories*

IEC 60446, *Basic and safety principles for man-machine interface marking and identification — Identification of conductors by colours or numerals*

IEC 60529:1989, *Degrees of protection provided by enclosures (IP code)*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1
craft's earth
protective ground
connection, provided for safety purposes, that is established by a conducting connection with the common ground/earth (potential of the earth's surface)

3.2
equipotential bonding conductor
normally non-current-carrying conductor used to put various exposed conductive parts of direct current electrical devices and extraneous conductive parts at a substantially equal potential

3.3
residual current device
RCD
electro-mechanical switching device or association of devices designed to make, carry and break currents under normal service conditions and to cause the opening of contacts when the residual current attains a given value under specified conditions

Note 1 to entry: RCDs serve to reduce the risk of injury to people from electrical shock hazard, and damage to equipment from leakage of stray currents to earth or to other circuits.

3.4
polarization transformer
transformer which automatically orientates the neutral and active (phase) conductors in the system in the same polarity orientation as the polarized system of the craft

3.5
isolation transformer
transformer with protective separation between the input and output windings and the protective conductor

3.6
neutral conductor
conductor connected to the neutral point of a system and capable of contributing to the transmission of electrical energy

3.7
protective conductor
protective grounding conductor
conductor, not normally carrying current, used for some measure of protection against electric shock, for electrically connecting any of the following parts of electrical equipment to the craft's ground (earth) and to the shore a.c. grounding conductor through the shore power cable:

a) exposed conductive parts of electrical equipment;

b) extraneous conductive parts;

c) the main grounding (earthing) terminal;

d) earth electrode(s);

e) the earth point of a source, or an artificial neutral

3.8
live conductor
conductor or conductive part intended to be energized in normal use, including a neutral conductor

3.9
active (phase) conductor
any conductor that is maintained at a difference of potential from the neutral or protective conductor

Note 1 to entry: In a system that does not include a neutral or protective conductor, all conductors are to be considered active conductors.

3.10
ignition-protected equipment
equipment designed and constructed to give protection against ignition of surrounding flammable gases

Note 1 to entry: See ISO 8846.

