

SLOVENSKI STANDARD

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SIST EN 61174:2004

Pomorska navigacijska in radiokomunikacijska oprema in sistemi - Prikazovalnik elektronskih kart in informacijski sistem - Zahteve za delovanje in lastnosti, preskusne metode in zahtevani rezultati preskušanja (IEC 61174:2008)

Maritime navigation and radiocommunication equipment and systems - Electronic chart display and information system (ECDIS) - Operational and performance requirements, methods of testing and required test results (IEC 61174:2008)

Navigations- und Funkkommunikationsgeräte und -systeme für die Seeschifffahrt - Elektronisches Kartendarstellungs- und Informationssystem (ECDIS) - Betriebs- und Leistungsanforderungen, Prüfverfahren und geforderte Prüfergebnisse (IEC 61174:2008)

Matériels et systèmes de navigation et de radiocommunication maritimes - Systèmes de visualisation des cartes électroniques et d'information (ECDIS) - Exigences d'exploitation et de fonctionnement, méthodes d'essai et résultats d'essai exigés. (CEI 61174:2008)

Ta slovenski standard je istoveten z: EN 61174:2008

ICS:

47.020.70	Navigacijska in krmilna oprema	Navigation and control equipment
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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

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November 2008

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English version

**Maritime navigation and radiocommunication equipment and systems -
Electronic chart display and information system (ECDIS) -
Operational and performance requirements,
methods of testing and required test results
(IEC 61174:2008)**

Matériels et systèmes de navigation
et de radiocommunication maritimes -
Systèmes de visualisation des cartes
électroniques et d'information (ECDIS) -
Exigences d'exploitation
et de fonctionnement, méthodes d'essai
et résultats d'essai exigés
(CEI 61174:2008)

Navigations- und
Funkkommunikationsgeräte
und -systeme für die Seeschifffahrt -
Elektronisches Kartendarstellungs-
und Informationssystem (ECDIS) -
Betriebs- und Leistungsanforderungen,
Prüfverfahren
und geforderte Prüfergebnisse
(IEC 61174:2008)

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This European Standard was approved by CENELEC on 2008-10-01. 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.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the 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 text of document 80/535/FDIS, future edition 3 of IEC 61174, prepared by IEC TC 80, Maritime navigation and radiocommunication equipment and systems, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 61174 on 2008-10-01.

This European Standard supersedes EN 61174:2001.

The main changes with respect to EN 61174:2001 are listed below:

- EN 61174:2008 incorporates revised performance standards for ECDIS adopted by the IMO as resolution MSC.232(82) in December 2006;
- the test methods have been updated accordingly and new tests added for encrypted ENC data;
- the revised IMO performance standards refer to performance standards for displays adopted by the IMO as resolution MSC.191(79) and these have been incorporated by reference to EN 62288;
- Annex E of the previous edition which defined navigation symbols has been deleted as this information is now in EN 62288;
- five new annexes have been added.

IMO changed the order of the performance standards in MSC.232(82) compared with the previous standards in resolution A.817(19). Annex N gives a cross-referencing of clause numbering.

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) 2009-07-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2011-10-01

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 61174:2008 was approved by CENELEC as a European Standard without any modification.

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

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

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60945	- ¹⁾	Maritime navigation and radiocommunication equipment and systems - General requirements - Methods of testing and required test results	EN 60945	2002 ²⁾
IEC 61162	Series	Maritime navigation and radiocommunication equipment and systems - Digital interfaces	EN 61162	Series
IEC 62288	- ¹⁾	Maritime navigation and radiocommunication equipment and systems - Presentation of navigation-related information on shipborne navigational displays - General requirements, methods of testing and required test results	EN 62288	2008 ²⁾
IEC 62388	- ¹⁾	Maritime navigation and radiocommunication equipment and systems - Shipborne radar - Performance requirements, methods of testing and required test results	EN 62388	2008 ²⁾
IMO SOLAS	1974	International Convention for the Safety of Life at Sea	-	-
IMO A.424(XI)	1979	Performance standards for gyro-compasses	-	-
IMO A.694(17)	1991	General requirements for shipborne radio equipment forming part of the global maritime distress and safety system (GMDSS) and for electronic navigational aids	-	-
IMO A.821(19)	1995	Performance standards for gyro-compasses for high-speed craft	-	-
IMO A.823(19)	1995	Performance standards for automatic radar plotting aids (ARPAs)	-	-
IMO A.824(19)	1995	Performance standards for devices to indicate speed and distance	-	-
IMO A.830(19)	1995	Code on Alarms and Indicators	-	-
IMO MSC.191(79)	- ¹⁾	Performance standards for the presentation of navigation-related information on shipborne navigational displays	-	-
IMO MSC.192(79)	- ¹⁾	Adoption of the revised performance standards for radar equipment	-	-

¹⁾ Undated reference.

²⁾ Valid edition at date of issue.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IMO MSC.232(82)	2006	Adoption of the revised performance standards for electronic chart display and information systems (ECDIS)	-	-
IMO MSC/ Circular 982	2000	Guidelines on ergonomic criteria for bridge equipment and layout	-	-
IMO SN/ Circular 243	2004	Guidelines for the presentation of navigation related symbols, terms and abbreviations	-	-
IMO SN.1/ Circular 266	2007	Maintenance of electronic chart display and information system (ECDIS) software	-	-
IHO M-3	2007	Resolutions of the IHO, Chapter A, Section 3, - Technical Resolution 3.11	-	-
IHO S-32 appendix 1	- ¹⁾	Hydrographic Dictionary - Glossary of ECDIS - Related Terms	-	-
IHO S-52	1996	Specifications for chart content and display aspects of ECDIS	-	-
IHO S-52 appendix 1	1996	Guidance on updating the electronic navigational chart	-	-
IHO S-52 appendix 2	2004	Colour and symbol specifications for ECDIS	-	-
IHO S-57 appendix B.1	2000	ENC product specification	-	-
IHO S-61	1999	Product specification for raster navigational charts (RNC)	-	-
IHO S-63	2008	IHO data protection scheme	-	-
IHO S-64	- ¹⁾	Test data sets for ECDIS	-	-

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**Maritime navigation and radiocommunication equipment and systems –
Electronic chart display and information system (ECDIS) – Operational and
performance requirements, methods of testing and required test results**

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CONTENTS

FOREWORD.....	6
1 Scope.....	8
2 Normative references	8
3 Terms, definitions and abbreviations	9
3.1 Definitions	10
3.2 Abbreviations	13
4 Minimum operational and performance requirements.....	13
4.1 General.....	13
4.2 ECDIS definitions	14
4.3 Display of SENC information	14
4.3.1 SENC	14
4.3.2 Warning indication.....	14
4.3.3 Categories of display.....	15
4.3.4 Safety contour	15
4.3.5 Safety depth.....	15
4.3.6 Information content.....	15
4.3.7 Verification and updates	15
4.3.8 Information about chart objects.....	16
4.3.9 Display scale	16
4.4 Provision and updating of chart information.....	16
4.4.1 Contents of the SENC	16
4.4.2 Updates.....	16
4.5 Scale.....	17
4.6 Display of other navigational information	17
4.6.1 Common reference system	17
4.6.2 Radar and plotting information.....	17
4.7 Display mode and generation of the neighbouring area	17
4.8 Colours and symbols	18
4.9 Display requirements.....	18
4.9.1 Route planning and monitoring	18
4.9.2 Chart presentation size.....	18
4.9.3 Colour and resolution	18
4.9.4 Presentation	18
4.9.5 Removal of information categories.....	19
4.10 Route planning, monitoring and voyage recording	19
4.10.1 General	19
4.10.2 Route planning	19
4.10.3 Route monitoring	19
4.10.4 Position integration.....	20
4.10.5 Object information	21
4.10.6 LOP position fix	21
4.10.7 Voyage recording	21
4.11 Calculations and accuracy.....	22
4.12 Connections with other equipment (interfaces)	22
4.13 Performance tests, malfunction alarms and indications.....	23
4.14 Back-up arrangements	23

4.15	Power supply.....	23
4.16	Software maintenance.....	24
5	Requirements contained in IHO special publications.....	24
5.1	Content and structure of chart data	24
5.2	Priority of chart display.....	24
5.3	Display of chart information.....	25
5.3.1	Scale and navigation purpose.....	25
5.3.2	Text.....	25
5.3.3	Units and legend	26
5.4	Display functions.....	26
5.4.1	Object information	26
5.4.2	Navigational information	26
5.4.3	Safety contour	27
5.4.4	Navigational calculations	27
5.4.5	Date-dependant ENC objects	27
5.5	Supplementary display functions	28
5.5.1	Additional mariner's information.....	28
5.5.2	Additional non-HO information.....	28
5.5.3	Tidal adjustment.....	28
5.6	Use of the presentation library.....	29
5.6.1	Presentation library.....	29
5.6.2	Test diagrams.....	29
5.7	Display characteristics	29
5.7.1	Display base.....	29
5.7.2	Navigators notes.....	29
5.8	Performance requirements.....	30
5.8.1	Redraw.....	30
5.8.2	Resolution	30
5.8.3	Symbols	30
5.8.4	Number of colours	30
5.8.5	Brightness and contrast.....	30
5.9	Ergonomic requirements.....	31
5.9.1	Mode and orientation.....	31
5.9.2	Windows.....	31
5.9.3	Mariner's information panel	31
5.10	Update of chart information	31
5.10.1	General	31
5.10.2	Manual update	32
5.10.3	Semi-automatic update.....	33
5.10.4	Reception of updates	33
5.10.5	Sequence check.....	33
5.10.6	Consistency check	34
5.10.7	Geographic applicability	34
5.10.8	Summary report	34
5.10.9	Review of ENC updates.....	34
5.10.10	Modification of updates	34
6	Methods of testing and required test results	34
6.1	EUT installation, technical documentation, and test requirements.....	34
6.2	Interfaces	35

6.3	General requirements and presentation requirements.....	35
6.3.1	General requirements	35
6.3.2	Presentation requirements.....	35
6.4	Preparation	36
6.4.1	Power-up.....	36
6.4.2	Initial ship parameters	36
6.4.3	Required test items	36
6.5	Initial data tests.....	36
6.5.1	Presentation library	36
6.5.2	ENC	37
6.5.3	Encrypted ENC.....	37
6.6	Accuracy	38
6.7	Visual requirements.....	38
6.7.1	Symbols	38
6.7.2	Units and legend	38
6.7.3	Colour table.....	39
6.7.4	Resolution	39
6.7.5	Display characteristics.....	39
6.8	Functional requirements	39
6.8.1	Standard display.....	40
6.8.2	Display base.....	40
6.8.3	All other information.....	40
6.8.4	Display priorities.....	40
6.8.5	Additional display functions.....	40
6.8.6	Scale and navigation purpose.....	41
6.8.7	Mode and orientation.....	41
6.8.8	Safety contour	42
6.8.9	Safety depth	42
6.8.10	Object information	42
6.8.11	Navigation related functions	43
6.8.12	Position integration.....	43
6.8.13	Radar and plotting information.....	44
6.8.14	Loading of corrupted data.....	44
6.8.15	Automatic updates.....	45
6.8.16	Manual updates.....	46
6.8.17	Self-tests of major functions	46
6.9	Operational requirements	47
6.9.1	Ergonomic principles	47
6.9.2	Route planning	47
6.9.3	Route monitoring	48
6.9.4	Twelve-hour log.....	49
6.9.5	Voyage record.....	49
6.9.6	Power supply.....	50
6.9.7	LOP position fix	50
6.10	Software maintenance.....	50
	Annex A (normative) SENC information to be displayed during route planning and route monitoring.....	51
	Annex B (normative) Navigational elements and parameters.....	52
	Annex C (normative) Areas for which special conditions exist.....	53

Annex D (normative) Alarms and indicators	54
Annex E (normative) ENC test data set.....	55
Annex F (normative) Back-up arrangements	58
Annex G (normative) ECDIS in the RCDS mode of operation	68
Annex H (normative) Alarms and indicators in the RCDS mode of operation	89
Annex I (normative) Scenario definitions and plots.....	90
Annex J (informative) Test requirements for encrypted ENC	94
Annex K (informative) Guidance for testing	97
Annex L (normative) Testing for colours and intensity	99
Annex M (informative) Elements of an electronic chart database	102
Annex N (informative) Cross-references between IEC 61174 editions and MSC.232(82)	107
Table 1 – Mandatory IEC 61162-1 sentences.....	23
Table 2 – Area, line and point objects	42
Table L.1 – Ambient light conditions	100

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**MARITIME NAVIGATION AND RADIOCOMMUNICATION
EQUIPMENT AND SYSTEMS –**
**Electronic chart display and information system (ECDIS) –
Operational and performance requirements,
methods of testing and required test results**

FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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- 8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
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International Standard IEC 61174 has been prepared by IEC technical committee 80: Maritime navigation and radiocommunication equipment and systems.

This third edition of IEC 61174 cancels and replaces the second edition published in 2001, of which it constitutes a technical revision.

The main changes with respect to the previous edition are listed below:

- this edition incorporates revised performance standards for ECDIS adopted by the IMO as resolution MSC.232(82) in December 2006;
- the test methods have been updated accordingly and new tests added for encrypted ENC data;

- the revised IMO performance standards refer to performance standards for displays adopted by the IMO as resolution MSC.191(79) and these have been incorporated by reference to IEC 62288;
- Annex E of the previous edition which defined navigation symbols has been deleted as this information is now in IEC 62288.
- five new annexes have been added.

IMO changed the order of the performance standards in MSC.232(82) compared with the previous standards in resolution A.817(19). Annex N gives a cross-referencing of clause numbering.

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

FDIS	Report on voting
80/535/FDIS	80/542/RVD

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

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

The committee has decided that the contents of this publication will remain unchanged until the maintenance result date indicated on the IEC web site under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

A bilingual version of this publication may be issued at a later date.

MARITIME NAVIGATION AND RADIOCOMMUNICATION EQUIPMENT AND SYSTEMS –

Electronic chart display and information system (ECDIS) – Operational and performance requirements, methods of testing and required test results

1 Scope

This International Standard specifies the performance requirements, methods of testing and required test results of equipment conforming to performance standards not inferior to those adopted by the IMO in resolution MSC.232(82).

This standard is based upon the performance standards of IMO resolution MSC.232(82), and is also associated with IMO resolution A.694(17) and IEC 60945. Reference is made, where appropriate, to IMO resolution MSC.232(82), and all subclauses whose wording is identical to that in the resolution are printed in italics.

In association with the above IMO resolution MSC.232(82), are the International Hydrographic Organization (IHO) special publications S-32, S-52, S-57, S-61, S-63 and S-64. This standard has included extracts from the above publications where they are applicable to this equipment. Where reference is made, all subclauses whose wording is identical to that in the publications, are printed in italics.

(232/A2.1) *These performance standards should apply to all ECDIS equipment carried on all ships as follows:*

- *dedicated standalone workstation.*
- *a multifunction workstation as part of an INS.*

(232/A2.2) *These performance standards apply to ECDIS mode of operation, ECDIS in RCDS mode of operation as specified in Annex G and ECDIS backup arrangements as specified in Annex F.*

(232/A2.3) *Requirements for structure and format of the chart data, encryption of chart data as well as the presentation of chart data are within the scope of relevant IHO standards, including those listed in the normative references.*

The requirements of this standard are not intended to prevent the use of new techniques in equipment and systems, provided the facilities offered are not inferior to those stated.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60945, *Maritime navigation and radiocommunication equipment and systems – General requirements – Methods of testing and required test results*

IEC 61162 (all parts), *Maritime navigation and radiocommunication equipment and systems – Digital interfaces*

IEC 62288, *Maritime navigation and radiocommunication equipment and systems – Presentation of navigation-related information on shipborne navigational displays – General requirements – Methods of testing and required test results*

IEC 62388, *Maritime navigation and radiocommunication equipment and systems – Shipborne Radar – Performance requirements – Methods of testing and required test results*

IMO *International Convention for the safety of life at sea (SOLAS) 1974 (as amended)*

IMO A.424(XI):1979, *Performance standards for gyro-compasses*

IMO A.694(17):1991, *General requirements for shipborne radio equipment forming part of the global maritime distress and safety system (GMDSS) and for electronic navigational aids*

IMO A.821(19):1995, *Performance standards for gyro-compasses for high-speed craft*

IMO A.823(19):1995, *Performance standards for automatic radar plotting aids*

IMO A.824(19):1995, *Performance standards for devices to indicate speed and distance*

IMO A.830(19):1995, *Code on Alarms and Indicators*

IMO MSC.191(79), *Performance standards for the presentation of navigation-related information on shipborne navigational displays*

IMO MSC.192(79), *Revised performance standards for radar equipment*

IMO MSC.232(82):2006, *Revised Performance standards for electronic chart display and information systems (ECDIS)*

IMO MSC/Circ.982 (2000), *Guidelines on ergonomic criteria for bridge equipment and layout*

IMO SN/Circ.243 (2004), *Guidelines for the Presentation of Navigation-related Symbols, Terms and Abbreviations*

IMO SN.1/Circ.266 (2007), *Maintenance of electronic chart display and information system (ECDIS) software*

IHO M-3:2007, *Resolutions of the IHO, Chapter A, Section 3, Technical Resolution 3.11*

IHO S-32, appendix 1, *Hydrographic dictionary – Glossary of ECDIS related terms*

IHO S-52:1996, *Specifications for chart content and display aspects of ECDIS*

IHO S-52, appendix 1:1996, *Guidance on updating the electronic navigational chart*

IHO S-52, appendix 2:2004 *Colour and symbol specifications for ECDIS*

IHO S-57, appendix B.1: 2000, *ENC product specification*

IHO S-61:1999, *Product specification for raster navigational charts (RNC)*

IHO S-63:2008, *IHO data protection scheme*

IHO S-64, *Test data sets for ECDIS*

3 Terms, definitions and abbreviations

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