

**Maritime navigation and radiocommunication
equipment and systems Radar for craft not in
compliance with IMO SOLAS Chapter V
Performance requirements, methods of test and
required test results**

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 62252:2004 sisaldab Euroopa standardi EN 62252:2004 ingliskeelset teksti.

Standard on kinnitatud Eesti Standardikeskuse 14.12.2004 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.

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The standard is available from Estonian standardisation organisation.

ICS 47.020.70

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**Maritime navigation and radiocommunication equipment and systems –
Radar for craft not in compliance with IMO SOLAS Chapter V –
Performance requirements, methods of test and required test results
(IEC 62252:2004)**

Matériels et systèmes de navigation
et de radiocommunication maritimes –
Radars pour navires non conformes
au Chapitre V de l'OMI-SOLAS –
Exigences d'exploitation et
de fonctionnement, méthodes d'essai
et résultats d'essai exigés
(CEI 62252:2004)

Navigations- und Funk-
kommunikationsgeräte und -systeme
für die Seeschifffahrt –
Radar für Schiffe, die nicht IMO SOLAS
Kapitel V entsprechen –
Leistungsanforderungen, Prüfverfahren
und geforderte Prüfergebnisse
(IEC 62252:2004)

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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

The text of document 80/393/FDIS, future edition 1 of IEC 62252, 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 62252 on 2004-10-01.

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) | 2005-07-01 |
| – latest date by which the national standards conflicting with the EN have to be withdrawn | (dow) | 2007-10-01 |

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 62252:2004 was approved by CENELEC as a European Standard without any modification.

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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 Where 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 60068-2-52	1996	Environmental testing	EN 60068-2-52	1996
Corr. July	1996	Part 2: Tests - Test Kb: Salt mist, cyclic (sodium chloride solution)		
IEC 60071-2	1996	Insulation co-ordination Part 2: Application guide	EN 60071-2	1997
IEC 60092-101	- ¹⁾	Electrical installations in ships Part 101: Definitions and general requirements	-	-
IEC 60417	database	Graphical symbols for use on equipment	-	-
IEC 60529	1989	Degrees of protection provided by enclosures (IP Code)	EN 60529 + corr. May	1991 1993
IEC 60533	1999	Electrical and electronic installations in ships - Electromagnetic compatibility	-	-
IEC 60872-2	1999	Maritime navigation and radiocommunication equipment and systems - Radar plotting aids Part 2: Automatic tracking aids (ATA) Methods of testing and required test results	EN 60872-2	1999
IEC 60872-3	2000	Part 3: Electronic plotting aid (EPA) - Performance requirements - Methods of testing and required test results	EN 60872-3	2001
IEC 60936-1	1999	Maritime navigation and radiocommunication equipment and systems - Radar Part 1: Shipborne radar - Performance requirements - Methods of testing and required test results	EN 60936-1	2000
IEC 60936-2	1998	Part 2: Shipborne radar for high-speed craft (HSC) - Methods of testing and required test results	EN 60936-2	1999

¹⁾ Undated reference.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60936-3	2002	Part 3: Radar with chart facilities - Performance requirements - Methods of testing and required test results	EN 60936-3	2002
IEC 60945	- ¹⁾	Maritime navigation and radiocommunication equipment and systems - General requirements - Methods of testing and required test results	EN 60945	2002 ²⁾
IEC 61000-4-8	1993	Electromagnetic compatibility (EMC) Part 4-8: Testing and measurement techniques - Power frequency magnetic field immunity test	EN 61000-4-8	1993
IEC 61108	Series	Maritime navigation and radiocommunication equipment and systems - Global navigation satellite systems (GNSS)	EN 61108	Series
IEC 61162	Series	Maritime navigation and radiocommunication equipment and systems - Digital interfaces	EN 61162	Series
IEC 61672	Series	Electroacoustics - Sound level meters	-	-
IEC/PAS 60936-5	- ¹⁾	Maritime navigation and radiocommunication equipment and systems - Radar Part 5: Guidelines for the use and display of AIS information on radar	-	-
ISO 694	2000	Ships and marine technology - Positioning of magnetic compasses in ships	EN ISO 694	2001
ISO 3791	1976	Office machines and data processing equipment - Keyboard layouts for numeric applications	-	-
ITU Radio Regulations	2001	Radio Regulations	-	-
ITU-R Recommendation M.1177-3	- ¹⁾	Techniques for measurement of unwanted emissions of radar systems	-	-
ITU-R Recommendation M.1313	- ¹⁾	Technical characteristics of maritime radionavigation radars	-	-
ITU-R Recommendation SM.328-9	- ¹⁾	Spectra and bandwidth of emissions	-	-

²⁾ Valid edition at date of issue.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
ITU-R Recommendation SM.329-10	- ¹⁾	Unwanted emissions in the spurious domain	-	-
ITU-R Recommendation SM.1539	- ¹⁾	Variation of the boundary between the out-of-band and spurious domains required for the application of Recommendations ITU-R SM.1541 and ITU-R SM.329	-	-
ITU-R Recommendation SM.1540	- ¹⁾	Unwanted emissions in the out-of-band domain falling into adjacent allocated bands	-	-
ITU-R Recommendation SM.1541	- ¹⁾	Unwanted emissions in the out-of-band domain	-	-
ITU-T Recommendation E.161	- ¹⁾	Arrangement of digits, letters and symbols on telephones and other devices that can be used for gaining access to a telephone network	-	-
IHO S-52	- ¹⁾	Specifications for chart content and display aspects of ECDIS	-	-

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INTERNATIONAL STANDARD

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62252

First edition
2004-07

**Maritime navigation and radiocommunication
equipment and systems –
Radar for craft not in compliance
with IMO SOLAS Chapter V –
Performance requirements, methods
of test and required test results**



Reference number
IEC 62252:2004(E)

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**MARITIME NAVIGATION AND RADIOCOMMUNICATION
EQUIPMENT AND SYSTEMS –
RADAR FOR CRAFT NOT IN COMPLIANCE WITH
IMO SOLAS CHAPTER V –
PERFORMANCE REQUIREMENTS, METHODS
OF TEST AND REQUIRED TEST RESULTS**

FOREWORD

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International Standard IEC 62252 has been prepared by IEC technical committee 80: Maritime navigation and radiocommunication equipment and systems.

This standard is based on the standards for radar and radar plotting used on SOLAS vessels, IEC 60872 series, IEC 60936 series and IEC 60945.

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

FDIS	Report on voting
80/393/FDIS	80/397/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.

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INTRODUCTION

This IEC radar standard is produced specifically for radar not fully compliant with the IMO Performance Standard for radar/radar plotting and applies to the following:

- radar (class A) intended for commercial craft under 150 gross tonnage, where no SOLAS radar carriage requirement currently exists, where the antenna beamwidth is not more than 4,0° and the display minimum effective diameter is limited to not less than 150 mm.
- radar (class B) intended for recreational craft or other maritime use and where the antenna beamwidth is not more than 5,5° and the display minimum effective diameter is limited to not less than 85 mm.
- radar (class C) intended for small recreational craft where the antenna beamwidth is not more than 7,5° and the display minimum effective diameter is limited to not less than 75 mm.

The requirements for commercial craft radar are covered in the main body of this specification. The requirements, where different, for radar (class B and C) are shown in parenthesis where applicable.

NOTE 1 The IMO performance standard for radar/radar plotting is in Resolution MSC.64(67) which is implemented in the IEC 60872 series and the IEC 60936 series of standards.

NOTE 2 For the purposes of this IEC standard, the words 'craft' and 'ship' are interchangeable and have the same meaning.

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MARITIME NAVIGATION AND RADIOCOMMUNICATION EQUIPMENT AND SYSTEMS – RADAR FOR CRAFT NOT IN COMPLIANCE WITH IMO SOLAS CHAPTER V – PERFORMANCE REQUIREMENTS, METHODS OF TEST AND REQUIRED TEST RESULTS

1 Scope

This International Standard specifies the minimum performance requirements for testing and required test results for conformance of radar not fully compliant with the IMO Performance Standard for radar/radar plotting (RP) (MSC.64(67)). In addition, it takes into account IEC 60945. When a requirement of this standard is different from that of IEC 60945 the requirement in this standard shall take precedence.

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 60068-2-52:1996, *Environmental testing – Part 2: Test Kb: Salt mist, cyclic (sodium chloride solution)*
Corrigendum 1 (1996)

IEC 60071-2:1996, *Insulation co-ordination – Part 2: Application guide*

IEC 60092-101, *Electrical installations in ships – Part 101: Definitions and general requirements*

IEC 60417:1998, *Graphical symbols for use on equipment – Part 1: Overview and application*

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

IEC 60533:1999, *Electrical and electronic installations in ships – Electromagnetic compatibility*

IEC 60872-2:1999, *Maritime navigation and radiocommunication equipment and systems – Radar plotting – Part 2: Automatic tracking aids (ATA) – Methods of testing and required test results*

IEC 60872-3:1999, *Maritime navigation and radiocommunication equipment and systems – Radar plotting – Part 3: Electronic plotting aid (EPA)*

IEC 60936-1:1999, *Maritime navigation and radiocommunication equipment and systems – Radar – Part 1: Shipborne radar – Methods of testing and required test results*

IEC 60936-2:2000, *Maritime navigation and radiocommunication equipment and systems – Radar – Part 2: Shipborne radar for high-speed craft (HSC) – Methods of testing and required test results*

IEC 60936-3:2000, *Maritime navigation and radiocommunication equipment and systems – Radar – Part 3: Shipborne radar with chart facilities – Methods of testing and required test results*

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

IEC 61000-4-8:1993, *Electromagnetic compatibility (EMC) – Part 4: Testing and measurement techniques – Section 8: Power frequency magnetic field immunity test – Basic EMC publication*

IEC 61108 (all parts), *Maritime navigation and radiocommunication equipment and systems GNSS/DGNSS*

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

IEC 61672, *Electroacoustics - Sound level meters*

IEC/PAS 60936-5, *Guidelines for the use and display of AIS information on Radar*

ISO 694:2000, *Ships and marine technology – Positioning of magnetic compasses in ships*

ISO 3791:1976, *Office machines and data processing equipment – Keyboard layouts for numeric applications*

ITU Radio Regulations 2001

ITU-R Recommendation M.1177-3, *Techniques for measurement of unwanted emissions of radar systems*

ITU-R Recommendation M.1313, *Technical characteristics of maritime radionavigation radars*

ITU-R Recommendation SM.328, *Spectra and bandwidth of emissions*

ITU-R Recommendation SM.329, *Unwanted emissions in the spurious domain*

ITU-R Recommendation SM.1539, *Variation of the boundary between the out-of-band and spurious domains required for the application of Recommendations ITU-R SM.1541 and ITU-R SM.329*

ITU-R Recommendation SM.1540, *Unwanted emissions in the out-of-band domain falling into adjacent allocated bands*

ITU-R Recommendation SM.1541, *Unwanted emissions in the out-of-band domain*

ITU-T Recommendation E.161, *Arrangement of digits, letters and symbols on telephones and other devices that can be used for gaining access to a telephone network*

IHO S.52, *Specifications for chart content and display aspects of ECDIS*

3 Terms, definitions and abbreviations

3.1 Definitions

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

3.1.1

accuracy

measure of the error between the point desired and the point achieved, or between the position indicated by measurement and the true position