



National Standards Authority of Ireland

STANDARD

I.S. EN 60945:2002

ICS 47.020.70

**MARITIME NAVIGATION AND
RADIOCOMMUNICATION EQUIPMENT AND
SYSTEMS - GENERAL REQUIREMENTS -
METHODS OF TESTING AND REQUIRED
TEST RESULTS
(IEC 60945:2002)**

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EUROPEAN STANDARD

EN 60945

NORME EUROPÉENNE

EUROPÄISCHE NORM

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Supersedes EN 60945:1997

English version

**Maritime navigation and radiocommunication equipment and systems -
General requirements -
Methods of testing and required test results
(IEC 60945:2002)**

Matériels et systèmes de navigation
et de radiocommunication maritimes -
Spécifications générales -
Méthodes d'essai et résultats exigibles
(CEI 60945:2002)

Navigations-
und Funkkommunikationsgeräte
und -systeme für die Seeschifffahrt -
Allgemeine Anforderungen -
Prüfverfahren und
geforderte Prüfergebnisse
(IEC 60945:2002)

This European Standard was approved by CENELEC on 2002-10-01. 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, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and 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 80/345/FDIS, future edition 4 of IEC 60945, 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 60945 on 2002-10-01.

This European Standard supersedes EN 60945:1997.

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) 2003-07-01 |
| -- latest date by which the national standards conflicting with the EN have to be withdrawn | (dow) 2005-10-01 |

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

Annexes designated "informative" are given for information only.

In this standard, annexes A and ZA are normative and annexes B to G are informative.

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 60945:2002 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 60068-2-32	NOTE	Harmonized as EN 60068-2-32:1993 (not modified).
IEC 60068-3-4	NOTE	Harmonized as EN 60068-3-4:2002 (not modified).
IEC 60073	NOTE	Harmonized as EN 60073:1996 (not modified).
IEC 60300-1	NOTE	Harmonized as EN 60300-1:1993 (not modified).
IEC 60721-2-1	NOTE	Harmonized as HD 478.2.1 S1:1989 (not modified).
IEC 60721-2-4	NOTE	Harmonized as HD 478.2.4 S1:1989 (not modified).
IEC 60721-3-6	NOTE	Harmonized as EN 60721-3-6:1993 + A2:1997 (not modified).
IEC 61162 (Series)	NOTE	Harmonized as EN 61162 (Series) (not modified).
IEC 61209	NOTE	Harmonized as EN 61209:1999 (not modified).
IEC 61508-1	NOTE	Harmonized as EN 61508-1:2001 (not modified).

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

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).

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 60050-161	1990	International Electrotechnical	-	-
A1	1997	Vocabulary (IEV)	-	-
A2	1998	Chapter 161: Electromagnetic compatibility	-	-
IEC 60068-2-1	1990	Environmental testing	EN 60068-2-1	1993
A1	1993	Part 2: Tests - Tests A: Cold	A1	1993
A2	1994		A2	1994
IEC 60068-2-2	1974	Part 2: Tests - Tests B: Dry heat	EN 60068-2-2 ¹⁾	1993
A1	1993		A1	1993
A2	1994		A2	1994
IEC 60068-2-5	1975	Part 2: Tests - Test Sa: Simulated solar radiation at ground level	EN 60068-2-5	1999
IEC 60068-2-6	1995	Part 2: Tests - Test Fc: Vibration	EN 60068-2-6	1995
+ corr. March	1995	(sinusoidal)		
IEC 60068-2-9	1975	Part 2: Tests - Guidance for solar radiation testing	EN 60068-2-9	1999
+ A1	1984			
A1/corr. August	1989			
IEC 60068-2-30	1980	Part 2: Tests - Test Db and guidance:	EN 60068-2-30	1999
+ A1	1985	Damp heat, cyclic (12 + 12 hour cycle)		
IEC 60068-2-48	1982	Part 2: Tests - Guidance on the application of the tests of IEC 60068 to simulate the effects of storage	EN 60068-2-48	1999
IEC 60068-2-52	1996	Part 2: Tests - Test Kb: Salt mist,	-	-
corr. July	1996	cyclic (sodium chloride solution)		
IEC 60071-2	1996	Insulation co-ordination	EN 60071-2	1997
		Part 2: Application guide		

¹⁾ EN 60068-2-2 includes supplement A:1976 to IEC 60068-2-2.

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<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60092-101	1994	Electrical installations in ships	-	-
A1	1995	Part 101: Definitions and general requirements	-	-
A1/corr. November	1996			
IEC 60417	Series	Graphical symbols for use on equipment	EN 60417	Series
IEC 60529	1989	Degrees of protection provided by enclosures (IP Code)	EN 60529	1991
A1	1999		+ corr. May A1	1993 2000
IEC 60533	1999	Electrical and electronic installations in ships - Electromagnetic compatibility	-	-
IEC 60651	1979	Sound level meters	EN 60651	1994
A1	1993		A1	1994
IEC 61000-4-2	1995	Electromagnetic compatibility (EMC) Part 4-2: Testing and measurement techniques - Electrostatic discharge immunity test	EN 61000-4-2	1995
IEC 61000-4-3 (mod)	1995	Part 4-3: Testing and measurement techniques - Radiated, radio-frequency, electromagnetic field immunity test	EN 61000-4-3	1996 ²⁾
IEC 61000-4-4	1995	Part 4-4: Testing and measurement techniques - Electrical fast transient/burst immunity test	EN 61000-4-4	1995
IEC 61000-4-5	1995	Part 4-5: Testing and measurement techniques - Surge immunity test	EN 61000-4-5	1995
IEC 61000-4-6	1996	Part 4-6: Testing and measurement techniques - Immunity to conducted disturbances, induced by radio-frequency fields	EN 61000-4-6	1996
IEC 61000-4-8	1993	Part 4-8: Testing and measurement techniques - Power frequency magnetic field immunity test	EN 61000-4-8	1993
IEC 61000-4-11	1994	Part 4-11: Testing and measurement techniques - Voltage dips, short interruptions and voltage variations immunity tests	EN 61000-4-11	1994
CISPR 16-1	1999	Specification for radio disturbance and immunity measuring apparatus and methods Part 1: Radio disturbance and immunity measuring apparatus	-	-

²⁾ EN 61000-4-3:1996 is superseded by EN 61000-4-3:2002, which is based on IEC 61000-4-3:2002.

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