SVENSK STANDARD SS-EN 61508-7

Fastställd	Utgåva	Sida	Ingår i
2002-10-09	1	1 (1+114)	SEK Område 65

Svenska Elektriska Kommissionen, SEK

Funktionssäkerhet hos elektriska, elektroniska och programmerbara elektroniska säkerhetskritiska system – Del 7: Översikt över metoder och åtgärder

Functional safety of electrical/electronic/programmable electronic safety-related systems – Part 7: Overview of techniques and measures

Som svensk standard gäller europastandarden EN 61508-7:2001. Den svenska standarden innehåller den officiella engelska språkversionen av EN 61508-7:2001.

Nationellt förord

Europastandarden EN 61508-7:2001

består av:

– **europastandardens ikraftsättningsdokument,** utarbetat inom CENELEC
– **IEC 61508-7, First edition, 2000 - Functional safety of electrical/electronic/programmable electronic safety-related systems - Part 7: Overview of techniques and measures**

utarbetad inom International Electrotechnical Commission, IEC.

ICS 25.040.40; 35.240.50

Denna standard är fastställd av Svenska Elektriska Kommissionen, SEK,
som också kan lämna upplysningar om **sakinnehållet** i standarden.
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EUROPEAN STANDARD **EN 61508-7**

NORME EUROPÉENNE

EUROPÄISCHE NORM December 2001

ICS 25.040.40; 35.240.50

English version

Functional safety of electrical/electronic/programmable electronic safety-related systems
Part 7: Overview of techniques and measures
(IEC 61508-7:2000)

Sécurité fonctionnelle des systèmes électriques/électroniques/électroniques programmables relatifs à la sécurité
Partie 7: Présentation de techniques et mesures
(CEI 61508-7:2000)

Funktionale Sicherheit sicherheitsbezogener elektrischer/ elektronischer/programmierbarer elektronischer Systeme
Teil 7: Anwendungshinweise über Verfahren und Maßnahmen
(IEC 61508-7:2000)

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

Ref. No. EN 61508-7:2001 E

Foreword

The text of the International Standard IEC 61508-7:2000, prepared by SC 65A, System aspects, of IEC TC 65, Industrial-process measurement and control, was submitted to the Unique Acceptance Procedure and was approved by CENELEC as EN 61508-7 on 2001-07-03 without any modification.

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) 2002-08-01

– 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, annex ZA is normative and annexes A, B, C and D are informative.
Annex ZA has been added by CENELEC.

IEC 61508 is a basic safety publication covering the functional safety of electrical, electronic and programmable electronic safety-related systems. The scope states:

"This International Standard covers those aspects to be considered when electrical/electronic/ programmable electronic systems (E/E/PESs) are used to carry out safety functions. A major objective of this standard is to facilitate the development of application sector international standards by the technical committees responsible for the application sector. This will allow all the relevant factors associated with the application, to be fully taken into account and thereby meet the specific needs of the application sector. A dual objective of this standard is to enable the development of electrical/electronic/programmable electronic (E/E/PE) safety-related systems where application sector international standards may not exist".

The CENELEC Report R0BT-004, ratified by 103 BT (March 2000) accepts that some IEC standards, which today are either published or under development, are sector implementations of IEC 61508. For example:

- IEC 61511, Functional safety - Safety instrumented systems for the process industry sector;
- IEC 62061, Safety of machinery – Functional safety of electrical, electronic and programmable electronic control systems;
- IEC 61513, Nuclear power plants – Instrumentation and control for systems important to safety – General requirements for systems.

The railways sector has also developed a set of European Standards (EN 50126; EN 50128 and prEN 50129).

NOTE EN 50126 and EN 50128 were based on earlier drafts of IEC 61508. prEN 50129 is based on the principles of the latest version of IEC 61508.

This list does not preclude other sector implementations of IEC 61508 which could be currently under development or published within IEC or CENELEC.

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Endorsement notice

The text of the International Standard IEC 61508-7:2000 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 60068-1	NOTE	Harmonized as EN 60068-1:1994 (not modified).
IEC 60529	NOTE	Harmonized as EN 60523:1991 (not modified).
IEC 60812	NOTE	Harmonized as HD 485 S1:1987 (not modified).
IEC 61000-4-1	NOTE	Harmonized as EN 61000-4-1:1994 (not modified).
IEC 61000-4-5	NOTE	Harmonized as EN 61000-4-5:1995 (not modified).
IEC 61025	NOTE	Harmonized as HD 617 S1:1992 (not modified).
IEC 61069-5	NOTE	Harmonized as EN 61069-5:1995 (not modified).
IEC 61078	NOTE	Harmonized as EN 61078:1993 (not modified).
IEC 61131-3	NOTE	Harmonized as EN 61131-3:1993 (not modified).
IEC 61346-1	NOTE	Harmonized as EN 61346-1:1996 (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.

Publication	Year	Title	EN/HD	Year
IEC 61508-1 + corr. May	1998 1999	Functional safety of electrical/electronic/programmable electronic safety-related systems Part 1: General requirements	EN 61508-1	2001
IEC 61508-2	2000	Part 2: Requirements for electrical/electronic/programmable electronic safety-related systems	EN 61508-2	2001
IEC 61508-3 + corr. April	1998 1999	Part 3: Software requirements	EN 61508-3	2001
IEC 61508-4 + corr. April	1998 1999	Part 4: Definitions and abbreviations	EN 61508-4	2001
IEC 61508-5 + corr. April	1998 1999	Part 5: Examples of methods for the determination of safety integrity levels	EN 61508-5	2001
IEC 61508-6	2000	Part 6: Guidelines on the application of IEC 61508-2 and IEC 61508-3	EN 61508-6	2001
IEC Guide 104	1997	The preparation of safety publications and the use of basic safety publications and group safety publications	-	-
ISO/IEC Guide 51	1990	Guidelines for the inclusion of safety aspects in standards	-	-

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FUNCTIONAL SAFETY OF ELECTRICAL/ELECTRONIC/ PROGRAMMABLE ELECTRONIC SAFETY-RELATED SYSTEMS –

Part 7: Overview of techniques and measures

1 Scope

1.1 This part of IEC 61508 contains an overview of various safety techniques and measures relevant to IEC 61508-2 and IEC 61508-3.

NOTE The references should be considered as basic references to methods and tools or as examples, and may not represent the state of the art.

1.2 IEC 61508-1, IEC 61508-2, IEC 61508-3 and IEC 61508-4 are basic safety publications, although this status does not apply in the context of low-complexity E/E/PE safety-related systems (see 3.4.4 of IEC 61508-4). As basic safety publications, they are intended for use by technical committees in the preparation of standards in accordance with the principles contained in IEC Guide 104 and ISO/IEC Guide 51. IEC 61508 is also intended for use as a stand-alone standard.

One of the responsibilities of a technical committee is, wherever applicable, to make use of basic safety publications in the preparation of its own publications. In this context, the requirements, test methods or test conditions of this basic safety publication will not apply unless specifically referred to or included in the publications prepared by those technical committees.

NOTE 1 The functional safety of an E/E/PE safety-related system can only be achieved when all related requirements are met. Therefore it is important that all related requirements are carefully considered and adequately referenced.

NOTE 2 In the USA and Canada, until the proposed process sector implementation of IEC 61508 (i.e. IEC 61511) is published as an international standard in the USA and Canada, existing national process safety standards based on IEC 61508 (i.e. ANSI/ISA S84.01-1996) can be applied to the process sector instead of IEC 61508.

1.3 Figure 1 shows the overall framework for parts 1 to 7 of this standard and indicates the role that IEC 61508-7 plays in the achievement of functional safety for E/E/PE safety-related systems.

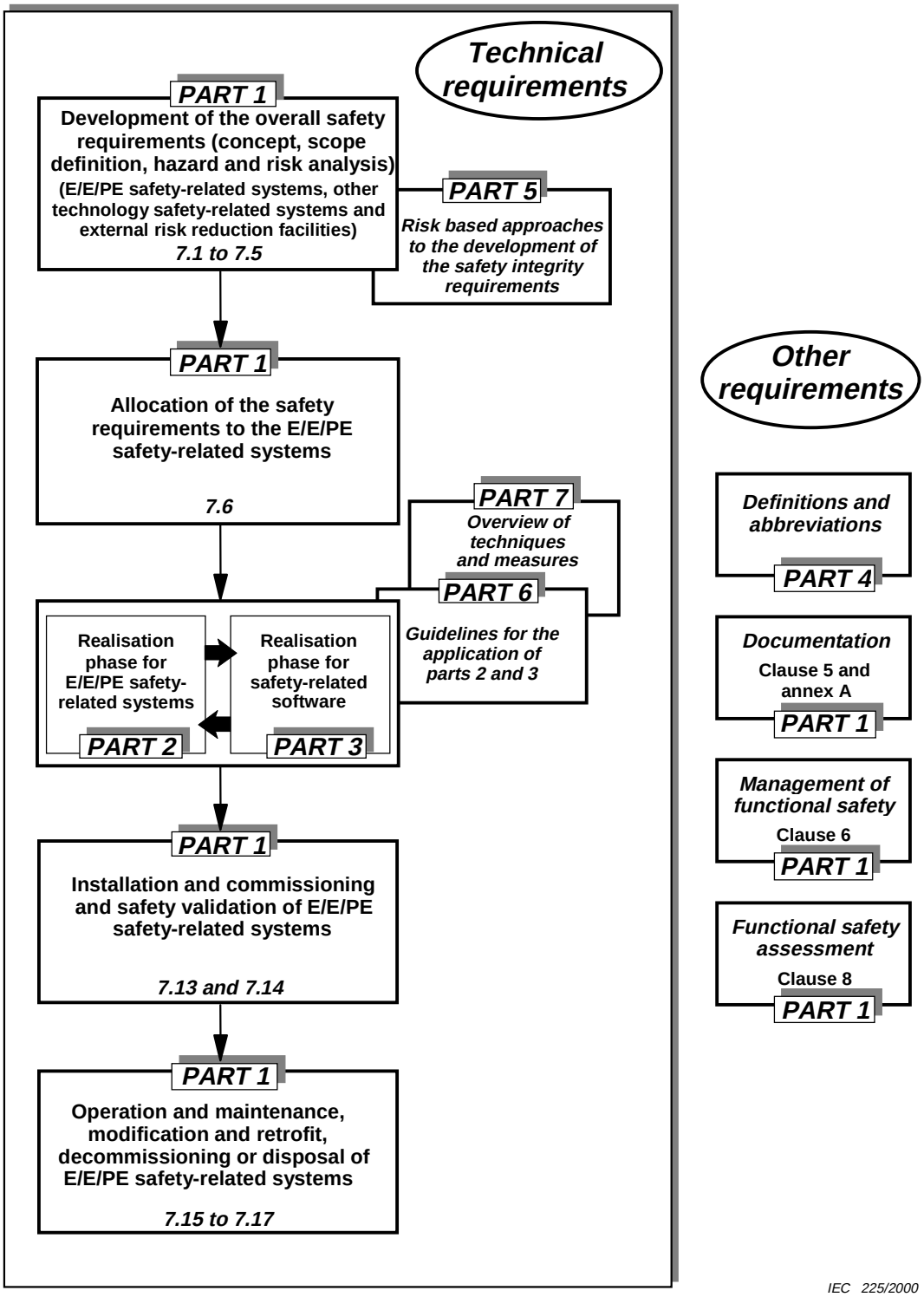

Figure 1 – Overall framework of IEC 61508