

# Standardization Activity for Dependability

Extracted and updated with permission from

**Safety and Reliability the Journal of the Safety and  
Reliability Society  
Volume 32 No 4**

Last updated 30 May 2016

Safety and Reliability Society  
Hollinwood Business Centre  
Albert Street  
Oldham  
Greater Manchester OL8 3QL

[www.sars.org.uk](http://www.sars.org.uk)

Copyright © SaRS 2016

## Standardization Activity for Dependability

The British Standards Institute committee DS/1 was established to develop and review British Standards in the fields of dependability, physical asset management and closely associated topics to meet identified needs. It also ensures that the interests of UK stakeholders are adequately represented in international standardization activities in this field, through its input into IEC/TC 56, CEN/TC 279 and CEN/TC 319. The standards considered by this committee are listed below

SaRS are represented on this committee by Richard Denning, who coordinates the SaRS view on any standard which is subject to review. If you wish to register an interest in a standard please email [standards@sars.org.uk](mailto:standards@sars.org.uk) listing the standards you are interested in. The next time the standard is reviewed your views will be sought.

Note there are several stages of circulation and it typically takes 2+ years for a standard to complete all rounds of circulation and be published. The various stages of circulation are detailed at the end of this document

The latest version of this document is available from <http://www.sars.org.uk/body-of-knowledge/>

Richard Denning April 2013

Note: All Drafts for Public Comments should be on the BSI Draft Review System, <http://drafts.bsigroup.com/>

**National**

<b>Standard No</b>	<b>Title</b>	<b>Current Activity</b>
BS CECC 00804:1996	Harmonized system of quality assessment for electronic components – Interpretation of ‘EN ISO 9000:1994’ – Reliability aspects of electronic components	
BS 3811:1993	Glossary of terms used in terotechnology	
BS 3843- 1:1992	Guide to terotechnology (the economic management of assets) – Introduction to terotechnology	
BS 3843- 2:1992	Guide to terotechnology (the economic management of assets) – Introduction to the techniques and applications	
BS 5760-0	Reliability of constructed or manufactured products, systems, equipments and components – Part 0: Introductory guide to reliability and maintainability	Published
BS 5760- 2:1994	Reliability of systems, equipment and components – Guide to the assessment of reliability	Confirmed 1/8/12
BS 5760- 8:1998	Reliability of systems, equipment and components – Guide to assessment of reliability of systems containing software	As of 4/16 being considered for reconfirmation

<b>Standard No</b>	<b>Title</b>	<b>Current Activity</b>
BS 5760-13.4:1993, IEC 60605-3-4:1992	Reliability of systems, equipment and components – Guide to reliability test conditions for consumer equipment – Conditions providing a low degree of simulation for equipment for portable and non-stationary use	
BS 5760-12:1993, IEC 60863:1986	Reliability of systems, equipment and components – Guide to the presentation of reliability, maintainability and availability predictions	
BS 5760-13.1:1993, IEC 60605-3-1:1986	Reliability of systems, equipment and components – Guide to reliability test conditions for consumer equipment – Conditions providing a low degree of simulation for indoor portable equipment	
BS 5760-13.2:1993, IEC 60605-3-2:1993:1986	Reliability of systems, equipment and components – Guide to reliability test conditions for consumer equipment – Conditions providing a high degree of simulation for equipment for stationary use in weather protected locations	

<b>Standard No</b>	<b>Title</b>	<b>Current Activity</b>
BS 5760-13.3:1993, IEC 60605-3-3:1992	Reliability of systems, equipment and components – Guide to reliability test conditions for consumer equipment – Conditions providing a low degree of simulation for equipment for stationary use in partially weather protected locations	
BS 5760-13.5:1996, IEC 60605-3-5:1996	Reliability of systems, equipment and components – Guide to reliability test conditions for consumer equipment – Ground mobile equipment – Low degree of simulation	
BS 5760-13.6:1997, IEC 60605-3-6:1996	Reliability of systems, equipment and components – Guide to reliability test conditions for consumer equipment – Outdoor transportable equipment – Low degree of simulation	
BS 5760-18:2010	Reliability of systems, equipment and components – Guide to the demonstration of dependability requirements – The dependability case	
BS 5760-24	Integration of risk assessment in the inspection and testing of complex systems	
BS 5760-25	Specification of priors for Reliability Demonstrations	On hold

<b>Standard No</b>	<b>Title</b>	<b>Current Activity</b>
BS 6548-6:1995, IEC 60706-6:1994	Maintainability of equipment – Guide to statistical methods in maintainability evaluation	

## Europe

### CEN/TC 279 Value management - Value analysis, functional analysis

Standard No	Title	Current Activity
EN 1325-1:1996	Value Management, Value Analysis, Functional Analysis vocabulary - Part 1: Value Analysis and Functional Analysis	
EN 12973:2000	Value management	
EN 1325-2:2004	Value Management, Value Analysis, Functional Analysis vocabulary - Part 2: Value Management	
prEN 12973 rev	Value management	
CEN TC 279/WG3	Value management - Functional expression of the need and functional performance specification - Requirements for expressing and validating the need to be satisfied within the process of purchasing or obtaining a product	
	Value management - Implementation Guide of EN 12973	
prEN 1325	Value Management, Value Analysis, Functional Analysis vocabulary	

## CEN/TC 319 Maintenance

Standard No	Title	Current Activity
EN 13269:2006	Maintenance - Guideline on preparation of maintenance contracts	at 4/16 up issue due soon.
EN 15341:2007	Maintenance - Maintenance Key Performance Indicators	4/16 – revision on going
CEN/TS 15331:2005	Criteria for design, management and control of maintenance services for buildings	4/16 – 5 yr review due
CEN/TR 15628:2007	Maintenance - Qualification of Maintenance personnel	Ed2 National Foreword to be added at4/16 to be adopted as ISO
EN 13460:2009	Maintenance - Documentation for maintenance	
EN 13306:2010	Maintenance - Maintenance terminology	Update likely to align with 192
prEN 15331	Criteria for design, management and control of maintenance services for buildings	
	Maintenance - Guidelines on maintenance management	New under development
BS EN 16646:2014	Maintenance within physical asset management	
	Physical condition assessment methodologies (for buildings / infrastructure)	New standard under development



<b>Standard No</b>	<b>Title</b>	<b>Current Activity</b>
NWIP 28/7	Maintenance Process	New proposal Jul 13
	Risk Based Inspection Framework	standard for review spring 2015

## International

<b>Standard No</b>	<b>EN</b>	<b>Title</b>	<b>Current Activity</b>
IEC/ISO 31010		Risk assessment techniques	
IEC 60050-191 Ed. 2.0		<del>International Electrotechnical Vocabulary – Part 191: Dependability</del>	Replaced by 60050-191
IEC 60050-192 Ed. 1.0		International electrotechnical vocabulary - Part 192: Dependability	Published
IEC 60050-692 Ed. 1.0		International Electrotechnical Vocabulary – Part 692: Electric power systems: Dependability and quality of service	CEV closes 27 Nov
IEC 60300-1 Ed. 3.0	✓	Dependability management – Part 1: Guidance For Management And Application	Published 5/14
IEC 60300-2 Ed. 2.0	✓	<del>Dependability management – Part 2: Guidelines for dependability management</del>	Withdrawn replaced by 60300-1

<b>Standard No</b>	<b>EN</b>	<b>Title</b>	<b>Current Activity</b>
IEC 60300-3-1 Ed. 2.0	✓	Dependability management – Part 3-1: Application guide – Analysis techniques for dependability – Guide on methodology	As of 11/15 being reshaped prior circulation
IEC 60300-3-2 Ed. 2.0		Dependability management – Part 3-2: Application guide – Collection of dependability data from the field	approved until 2018
IEC 60300-3-3 Ed. 2.0	✓	Dependability management – Part 3-3: Application guide – Life cycle costing	CDV due 7/15
IEC 60300-3-4 Ed. 2.0	✓	Dependability management – Part 3-4: Application guide – Guide to the specification of dependability requirements	Review started 11/15 likely merger with 62347
IEC 60300-3-5 Ed. 1.0		Dependability management – Part 3-5: Application guide – Reliability test conditions and statistical test principles	approved until 2017
IEC 60300-3-9 Ed. 1.0		Dependability management – Part 3: Application guide – Section 9: Risk analysis of technological systems	Replaced by ISO 21010:2009
IEC 60300-3-10 Ed. 1.0		Dependability management – Part 3-10: Application guide – Maintainability & Supportability	DCS eta 11/15
IEC 60300-3-11 Ed. 2.0	✓	Dependability management – Part 3-11: Application guide – Reliability Centred Maintenance	approved until 2021

<b>Standard No</b>	<b>EN</b>	<b>Title</b>	<b>Current Activity</b>
IEC 60300-3-12 Ed. 1.0	✓	Dependability management – Part 3-12: Application guide – Integrated logistic support	Confirmed 3 years 10/14
IEC 60300-3-14 Ed. 1.0	✓	Dependability management – Part 3-14: Application guide – Maintenance and maintenance support	as of 11/15 being revised
IEC 60300-3-15 Ed. 1.0	✓	Dependability management – Part 3-15: Application guide – Engineering of system dependability	Standard to be reshaped “what dependability is” more visibility of way ahead oct 15
IEC 60300-3-16 Ed. 1.0	✓	Dependability management – Part 3-16: Application guide – Guidelines for specification of maintenance support services	Approved until 2021
IEC 60319 Ed. 3.0		Presentation and specification of reliability data for electronic components	approved until 2018
IEC 60410 Ed. 1.0		Sampling plans and procedures for inspection by attributes	To be withdrawn
IEC 60605-2 Ed. 1.0		Equipment reliability testing – Part 2: Design of test cycles	

<b>Standard No</b>	<b>EN</b>	<b>Title</b>	<b>Current Activity</b>
IEC 60605-4 Ed. 2.0		Equipment reliability testing – Part 4: Statistical procedures for exponential distribution – Point estimates, confidence intervals, prediction intervals and tolerance intervals	Approved until 2018
IEC 60605-6 Ed. 3.0		Equipment reliability testing – Part 6: Tests for the validity and estimation of the constant failure rate and constant failure intensity	Approved until 2018
IEC 60706-2 Ed. 2.0		Maintainability of equipment – Part 2: Maintainability requirements and studies during the design and development phase	Confirmed 3 years 10/14
IEC 60706-3 Ed. 2.0		Maintainability of equipment – Part 3: Verification and collection, analysis and presentation of data	approved until 2021
IEC 60706-5 Ed. 2.0		Maintainability of equipment – Part 5: Testability and diagnostic testing	CD eta /16
IEC 60812 Ed. 2.0	✓	Analysis techniques for system reliability – Procedure for failure mode and effects analysis (FMEA)	Under review CD2 eta 05/15
IEC/IEEE 61014 Ed. 2.0	✓	Programmes for reliability growth	update due 2018
IEC 61025 Ed. 2.0	✓	Fault tree analysis (FTA)	

<b>Standard No</b>	<b>EN</b>	<b>Title</b>	<b>Current Activity</b>
IEC 61070 Ed. 1.0		Compliance test procedures for steady-state availability	revision started 11/15
IEC 61078 Ed. 2.0	✓	Analysis techniques for dependability – Reliability block diagram and Boolean methods	approved until 2017
IEC 61123 Ed. 1.0		Reliability testing – Compliance test plans for success ratio	
IEC 61124 Ed. 2.0	✓	Reliability testing – Compliance tests for constant failure rate and constant failure intensity	approved until 2018
IEC 61160 Ed. 2.0	✓	Design review	Confirmed 4 years 10/14
IEC 61163-1 Ed. 2.0		Reliability stress screening – Part 1: Repairable assemblies manufactured in lots	May merge with part 2
IEC 61163-2 Ed. 1.0		Reliability stress screening – Part 2: Electronic components	May merge with part 1 CD2 eta 1/16
IEC 61164 Ed. 2.0	✓	Reliability growth – Statistical test and estimation methods	Approved until 2018
IEC 61165 Ed. 2.0	✓	Application of Markov techniques	
IEC 61649 Ed. 2.0		Weibull analysis	

<b>Standard No</b>	<b>EN</b>	<b>Title</b>	<b>Current Activity</b>
IEC 61650 Ed. 1.0		Reliability data analysis techniques – Procedures for comparison of two constant failure rates and two constant failure (event) intensities	approved until 2017
IEC 61703 Ed. 1.0		Mathematical expressions for reliability, availability, maintainability and maintenance support terms	FDIS eta 12/15
IEC 61709 Ed. 1.0		Electronic components – Reliability conditions for failure rates and stress models for conversion	FDIS eta 8/16
IEC 61710 Ed. 1.0		Power law model – Goodness-of-fit tests and estimation methods	
IEC/ISO 61882 Ed. 1.0		Hazard and operability studies (HAZOP studies) – Application guide	FDIS eta 7/15
IEC 61907 Ed. 1.0		Communication network dependability engineering	Revision started 11/15
IEC 62198 Ed. 2.0	✓	Managing Risk in projects application guidelines	Published 11/14
IEC 62308 Ed. 1.0		Equipment reliability – Reliability assessment methods	Approved until 2018
IEC 62309 Ed. 1.0		Dependability of products containing reused parts – Requirements for functionality and tests	Review to start 2018

<b>Standard No</b>	<b>EN</b>	<b>Title</b>	<b>Current Activity</b>
IEC 62347 Ed. 1.0	✓	Guidance on system dependability specifications	Confirmed 5 years 10/14 to be merged with 60300-3-4
IEC 62380 Technical Report (TR) Ed. 1.0		Reliability data handbook – Universal model for reliability prediction of electronics components, PCBs and equipment	will merge with 61709.
IEC 62402 Ed. 1.0		Obsolescence management – Application guide	CD eta 1/16
IEC 62429 Ed. 1.0	✓	Reliability growth – Stress testing for early failures in unique complex systems	Approved until 2018
IEC 62502 Ed. 1.0		Analysis techniques for dependability – Event Tree Analysis (ETA)	Approved until 2018
IEC 62506 Ed. 2.0	✓	Methods for product accelerated testing	Approved until 2018
IEC 62508 Ed. 1.0	✓	Guidance on human aspects of dependability	As of 11/15 being revised as management document
IEC 62550 Ed. 1.0		Spare Parts Provisioning	CDV eta 8/15
IEC 62551 Ed. 1.0	✓	Analysis techniques for dependability – Petri net techniques	Published 2012
IEC 62628 Ed. 1.0	✓	Guidance on software aspects of dependability	Published Oct 12

<b>Standard No</b>	<b>EN</b>	<b>Title</b>	<b>Current Activity</b>
IEC 62673 Ed. 1.0		Methodology for communication network dependability assessment and assurance	Published Jun 13
IEC 62740		Root cause analysis	
IEC 62741	✓	The Dependability case	
IEC/PAS 62814/Ed1:		Dependability of Software Products Containing Reusable Components - Guidance for Functionality and Tests	FDIS eta 1/15
IEC/ISO 31010 Ed. 1.0		Risk management – Risk assessment techniques	new stability date 2018
IEC 62853		Open Systems Dependability	2CD eta 3/15
PNW DD:261		Human reliability – Guide to fundamental considerations	As of 4/16 being incorporated in 62508 revision
IEC TS 62775		Dependability & Financial Processes for Implementing Asset Management systems	Draft review closes 11/15
62960		Dependability review during the life cycle	CD eta 11/15



## ISO

Standard No	EN	Title	Current Activity
ISO 31000		Risk Management	Under revision
ISO 55000		Asset Management – Overview – Principles and terminology	
ISO 55001		Asset Management – Requirements	
ISO 55002		Asset Management – Guidelines on the application of ISO 55000	

## Non DS/1 Standards

IEC TC9X – WG 14

Standard No	EN	Title	Current Activity
IEC 62278 [EN 50126-1]	✓	Specification and demonstration of reliability, maintainability and safety (RAMS)	

## Stage Codes

PWI Potential new work item	CDM Committee Draft to be discussed at meeting
PNW Proposed New Work	ACDV Draft approved for Committee Draft with Vote
ANW Approved New Work	CCDV Draft circulated as Committee Draft with Vote
AMW Approved Maintenance Work	ADIS Approved for DIS circulation
1CD 1st Committee Draft	CDVM CDV to be discussed at meeting
A2CD Approved for 2nd Committee Draft	NADIS Draft not approved under Committee Draft with vote
2CD 2nd Committee Draft	BWG Draft returned to Working Group
A3CD Approved for 3rd Committee Draft	DREJ Draft rejected
3CD 3rd Committee Draft	ADISSB FDIS manuscript subcontracted to CO
A4CD Approved for 4th Committee Draft	DEC Draft at editing check
4CD 4th Committee Draft	SUBDEC Approved draft preparation subcontracted by C.O.
A5CD Approved for 5th Committee Draft	RDIS Text for DIS received and registered
5CD 5th Committee Draft	CDIS Draft circulated as DIS
A6CD Approved for 6th Committee Draft	APUB Draft approved for publication
6CD 6th Committee Draft	NCD Draft returned to TC/SC after FDIS
A7CD Approved for 7th Committee Draft	CAN Draft cancelled
7CD 7th Committee Draft	APUBSB PUB manuscript subcontracted to
A8CD Approved for 8th Committee Draft	CO
8CD 8th Committee Draft	BPUB Publication being printed
A9CD Approved for 9th Committee Draft	PPUB Publication issued
9CD 9th Committee Draft	SRP Publication under Systematic Review
CDTR Circulated draft Technical Report	WPUB Publication withdrawn
CDTS Circulated draft Technical Specification	
CDPAS Circulated draft Publicly Available Specification	FDIS Final Draft International Standard