



SLOVENSKI STANDARD

SIST HD 617 S1:2004

01-september-2004

Analiza drevesa okvar (FTA) (IEC 61025:1990)

Fault tree analysis (FTA)

Störungsbaumanalyse

Analyse par arbre de panne (AAP)

Ta slovenski standard je istoveten z: **HD 617 S1:1992**

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ICS:

03.120.01	Kakovost na splošno	Quality in general
21.020	Značilnosti in načrtovanje strojev, aparatov, opreme	Characteristics and design of machines, apparatus, equipment

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en

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HARMONIZATION DOCUMENT

HD 617 S1

DOCUMENT D'HARMONISATION

HARMONISIERUNGSDOKUMENT

October 1992

UDC 621.3-192:620.1

Descriptors: Dependability, fault tree analysis, FTA, basic principle, procedure, top event identification, fault tree construction, fault tree evaluation

ENGLISH VERSION

Fault tree analysis (FTA)
(IEC 1025:1990)

Analyse par arbre de panne (AAP)
(CEI 1025:1990)

Fehlerbaumanalyse
(IEC 1025:1990)

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This Harmonization Document was approved by CENELEC on 1992-09-15.
CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for implementation of this Harmonization Document on a national level.

Up-to-date lists and bibliographical references concerning national implementation may be obtained on application to the Central Secretariat or to any CENELEC member.

This Harmonization Document exists in three official versions (English, French, German).

CENELEC members are the national electrotechnical committees of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, 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 CENELEC questionnaire procedure, performed for finding out whether or not the International Standard IEC 1025:1990 could be accepted without textual changes, has shown that no common modifications were necessary for the acceptance as Harmonization Document.

The reference document was submitted to the CENELEC members for formal vote and was approved by CENELEC as HD 617 S1 on 15 September 1992.

The following dates were fixed:

- latest date of announcement
of the HD at national level (doa) 1993-03-01
- latest date of publication of
a harmonized national standard (dop) 1993-09-01
- latest date of withdrawal of
conflicting national standards (dow) 1993-09-01

Annexes designated "normative" are part of the body of the standard.
In this standard, annex ZA is normative.

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ENDORSEMENT NOTICE

SIST HD 617 S1:2004

The text of the International Standard IEC 1025:1990 was approved by CENELEC as a Harmonization Document without any modification.

ANNEX ZA (normative)

OTHER INTERNATIONAL PUBLICATIONS QUOTED IN THIS STANDARD
WITH THE REFERENCES OF THE RELEVANT EUROPEAN PUBLICATIONS

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

IEC Publication	Date	Title	EN/HD	Date
50(191)	1990	International Electrotechnical Vocabulary (IEV) Chapter 191: Dependability and quality of service	-	-
617-12	1983	Graphical symbols for diagrams Part 12: Binary logic elements	-	-

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NORME
INTERNATIONALE
INTERNATIONAL
STANDARD

CEI
IEC
1025

Première édition
First edition
1990-10

Analyse par arbre de panne (AAP)

Fault tree analysis (FTA)

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International Electrotechnical Commission
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INTERNATIONAL ELECTROTECHNICAL COMMISSION

FAULT TREE ANALYSIS (FTA)

FOREWORD

- 1) The formal decisions or agreements of the IEC on technical matters, prepared by Technical Committees on which all the National Committees having a special interest therein are represented, express, as nearly as possible, an international consensus of opinion on the subjects dealt with.
- 2) They take the form of recommendations for international use and they are accepted by the National Committees in that sense.
- 3) In order to promote international unification, the IEC expresses the wish that all National Committees should adopt the text of the IEC recommendation for their national rules in so far as national conditions will permit. Any divergence between the IEC recommendation and the corresponding national rules should, as far as possible, be clearly indicated in the latter.

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This International Standard has been prepared by IEC Technical Committee No. 56: Reliability and Maintainability.

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

Six Months' Rule	Report on Voting	Two Months' Procedure	Report on Voting
56(CO)121	56(CO)129	56(CO)133	56(CO)139

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

Annex A: Symbols, is normative and forms an integral part of this International Standard.

INTRODUCTION

Several analytical methods of dependability analysis are available, of which fault tree analysis (FTA) is one. The purpose of each method and their individual or combined applicability in evaluating the reliability and availability of a given system or component should be examined by the analyst before starting the FTA. Consideration should also be given to the results available from each method, data required to perform the analysis, complexity of analysis, and other factors identified in this standard.

Fault tree analysis is concerned with the identification and analysis of conditions and factors which cause or contribute to the occurrence of a defined undesirable event, usually one which significantly affects system performance, economy, safety or other required characteristics. FTA is often applied to the safety analysis of systems.

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FAULT TREE ANALYSIS (FTA)

1 Scope

This International Standard describes fault tree analysis, and gives guidance on its application, as follows:

- by defining basic principles;
- by providing the steps necessary to perform an analysis;
- by identifying appropriate assumptions, events and failure modes;
- by providing identification rules and symbols.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards listed below. Members of IEC and ISO maintain registers of currently valid International Standards.

IEC 50(191): 1990, *International Electrotechnical Vocabulary (IEV), Chapter 191: Dependability and quality of service.*

IEC 617-12: 1983, *Graphical symbols for diagrams, Part 12: Binary logic elements.*

3 Definitions

Terms and definitions are in accordance with International Electrotechnical Vocabulary (IEV), Chapter 191.

4 Symbols

The graphical representation of the fault tree requires that symbols, identifiers and labels be used in a consistent manner. The detailed rules are given in clause 8 and annex A.