ICS 03.120.01, 31.020 SLOVENSKÁ TECHNICKÁ NORMA September 2020

STN	**Preverovanie spoľahlivosti pri namáhaní Časť 2: Komponenty**	**STN EN IEC 61163-2** 01 0644

Reliability stress screening - Part 2: Components

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 08/20

Obsahuje: EN IEC 61163-2:2020, IEC 61163-2:2020

131318

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN IEC 61163-2

May 2020

ICS 03.120.01; 31.020

English Version

Reliability stress screening - Part 2: Components (IEC 61163-2:2020)

Déverminage sous contraintes - Partie 2: Composants (IEC 61163-2:2020)

Zuverlässigkeitsvorbehandlung durch Beanspruchung - Teil 2: Bauelemente (IEC 61163-2:2020)

This European Standard was approved by CENELEC on 2020-04-15. 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 CEN-CENELEC Management Centre 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 CEN-CENELEC Management Centre has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

European foreword

The text of document 56/1875/FDIS, future edition 2 of IEC 61163-2, prepared by IEC/TC 56 "Dependability" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 61163-2:2020.

The following dates are fixed:

• latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2021-01-15
• latest date by which the national standards conflicting with the document have to be withdrawn	(dow)	2023-04-15

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC shall not be held responsible for identifying any or all such patent rights.

Endorsement notice

The text of the International Standard IEC 61163-2:2020 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 61163-1	NOTE	Harmonized as EN 61163-1
IEC 62506	NOTE	Harmonized as EN 62506
IEC 61014	NOTE	Harmonized as EN 61014
IEC 62402	NOTE	Harmonized as EN IEC 62402
IEC 62506	NOTE	Harmonized as EN 62506
IEC 61709	NOTE	Harmonized as EN 61709
IEC 61649	NOTE	Harmonized as EN 61649
IEC 62740	NOTE	Harmonized as EN 62740

IEC 61163-2

Edition 2.0 2020-03

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Reliability stress screening – Part 2: Components

Déverminage sous contraintes – Partie 2: Composants

IEC 61163-2:2020-03(en-fr)

IEC 61163-2

Edition 2.0 2020-03

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Reliability stress screening – Part 2: Components

Déverminage sous contraintes – Partie 2: Composants

INTERNATIONAL ELECTROTECHNICAL COMMISSION

COMMISSION ELECTROTECHNIQUE INTERNATIONALE

ICS 03.120.01; 31.020

ISBN 978-2-8322-7910-6

CONTENTS

INTERNATIONAL ELECTROTECHNICAL COMMISSION

_____

RELIABILITY STRESS SCREENING –

Part 2: Components

FOREWORD

1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
2) The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.
3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
6) All users should ensure that they have the latest edition of this publication.
7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 61163-2 has been prepared by IEC technical committee 56: Dependability.

This second edition cancels and replaces the first edition published in 1998. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

a) this version of the document is a complete rewrite and restructure from the previous version.

The text of this International Standard is based on the following documents:

FDIS	Report on voting
56/1875/FDIS	56/1887/RVD

Full information on the voting for the approval of this International Standard can be found in the report on voting indicated in the above table.

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts in the IEC 61163 series, published under the general title *Reliability stress screening*, can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under "http://webstore.iec.ch" in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

INTRODUCTION

Although first developed to stabilize the parameters of manufactured components (burn-in), reliability stress screening (RSS) can be used to remove from a component population the weaker components. This can be done at times where the manufacturing processes for components are difficult to control or for other reasons such as where the components need to be selected (re-qualified) to operate in harsher than usual operating conditions. This is also done where more narrow specifications are required for the application and no alternative courses of action are available.

The use of RSS is normally only a temporary measure when early failures need to be avoided under a specific set of conditions as outlined above.

RSS is an effective tool in identifying and removing flaws due to poor component design and manufacturing deficiencies.

RELIABILITY STRESS SCREENING –

Part 2: Components

1 Scope

This part of IEC 61163 provides guidance on RSS techniques and procedures for electrical, electronic, and mechanical components. This document is procedural in nature and is not, and cannot be, exhaustive with respect to component technologies due to the rapid rate of developments in the component industry.

This document is:

a) intended for component manufacturers as a guideline;

b) intended for component users as a guideline to negotiate with component manufacturers on RSS requirements;

c) intended to allow the planning of an RSS process in house to meet reliability requirements or to allow the re-qualification of components for specific, upgraded, environments;

d) intended as a guideline to sub-contractors who provide RSS as a service.

This document is not intended to provide test plans for specific components or for delivery of certificates of conformance for batches of components.

The use of bi-modal Weibull analysis to select and optimize an RSS process without having to estimate the reliability and life time of all items is described.

2 Normative references

There are no normative references in this document.