SLOVENSKI STANDARD
SIST EN 60154-2:2017

01-januar-2017

Nadomešča:
SIST EN 60154-2:1999
SIST EN 60154-2:1999/A1:1998

Prirobnice za valovode - 2. del: Ustrezne specifikacije za prirobnice za navadne pravokotne valovode (IEC 60154-2:2016)

Flanges for waveguides - Part 2: Relevant specifications for flanges for ordinary rectangular waveguides (IEC 60154-2:2016)

Flansche für Hohlleiter - Teil 2: Allgemeine Anforderungen für Flansche für Rechteck-Hohlleiter (IEC 60154-2:2016)

Brides pour guides d'ondes - Partie 2: Spécifications particulières de brides pour guides d'ondes rectangulaires normaux (IEC 60154-2:2016)

Ta slovenski standard je istoveten z: **EN 60154-2:2016**

ICS:

33.120.10 Koaksialni kabli. Valovodi Coaxial cables. Waveguides

SIST EN 60154-2:2017 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 60154-2

November 2016

ICS 33.100.10

Supersedes EN 60154-2:1997

English Version

Flanges for waveguides - Part 2: Relevant specifications for flanges for ordinary rectangular waveguides (IEC 60154-2:2016)

Brides pour guides d'ondes - Partie 2: Spécifications applicables relatives aux brides pour guides d'ondes rectangulaires normaux
(IEC 60154-2:2016)

Flansche für Hohlleiter - Teil 2: Allgemeine Anforderungen an Flansche für Rechteck-Hohlleite
(IEC 60154-2:2016)

This European Standard was approved by CENELEC on 2016-08-09. 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, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, 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: Avenue Marnix 17, B-1000 Brussels

Ref. No. EN 60154-2:2016 E

European foreword

The text of document 46F/305/CDV, future edition 3 of IEC 60154-2, prepared by SC 46F "RF and microwave passive components", of IEC/TC 46 "Cables, wires, waveguides, RF connectors, RF and microwave passive components and accessories" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 60154-2:2016.

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) 2017-05-25
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2019-11-25

This document supersedes EN 60154-2:1997.

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

Endorsement notice

The text of the International Standard IEC 60154-2:2016 was approved by CENELEC as a European Standard without any modification.

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE 1 When an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu.

Publication	Year	Title	EN/HD	Year
IEC 60050	series	International Electrotechnical Vocabulary_-- Part_102: Mathematics_- General concepts and linear algebra		series
IEC 60153-2	2016	Hollow metallic waveguides - Part 2: Relevant specifications for ordinary rectangular waveguides	EN 60153-2	2016
ISO/IEC Guide 98-3	2008	Uncertainty of measurement -- Part 3:- Guide to the expression of uncertainty in measurement (GUM:1995)		-

IEC 60154-2

Edition 3.0 2016-07

INTERNATIONAL STANDARD

NORME INTERNATIONALE

colour inside

Flanges for waveguides –
Part 2: Relevant specifications for flanges for ordinary rectangular waveguides

Brides pour guides d'ondes –
Partie 2: Spécifications applicables relatives aux brides pour guides d'ondes rectangulaires normaux

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

COMMISSION
ELECTROTECHNIQUE
INTERNATIONALE

ICS 33.120.10

ISBN 978-2-8322-3496-9

CONTENTS

INTERNATIONAL ELECTROTECHNICAL COMMISSION

_____

FLANGES FOR WAVEGUIDES –

Part 2: Relevant specifications for flanges for ordinary rectangular waveguides

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 60154-2 has been prepared by subcommittee 46F: RF and microwave passive components, of IEC technical committee 46: Cables, wires, waveguides, RF connectors, RF and microwave passive components and accessories

This third edition cancels and replaces the second edition published in 1980. This edition constitutes a technical revision.

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

a) revise the estimation for return loss at connection interface of waveguides;
b) add two type of waveguide flange for high frequency application, i.e. over 50 GHz;
c) expand the operation frequency range up to 3,3 THz;
d) rename the frequency band over R 1200, i.e. R1,2k.

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

CDV	Report on voting
46F/305/CDV	46F/319/RVC

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

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

A list of all parts in the IEC 60154 series, published under the general title *Flanges for waveguides*, can be found on the IEC website.

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

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

IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

INTRODUCTION

This International Standard relates to straight hollow metallic tubing for use as waveguides in electronic equipment. In recent years, the operation frequency of waveguide components and systems has been extended to 1 THz and above. However, the IEC 60154 series, series of standards for flanges for waveguides, currently specifies the interface designs up to 40 GHz for rectangular waveguide. In addition to this, the current issues of the IEC 60154 series of standards were issued in the 1970's and do not meet the needs of current applications. This new edition of IEC 60154-2 addresses these two issues by extending the frequency coverage to 3 300 GHz and by addressing current applications for this type of waveguide.

FLANGES FOR WAVEGUIDES –

Part 2: Relevant specifications for flanges for ordinary rectangular waveguides

1 Scope

This part of IEC 60154 specifies the dimensions of flanges for ordinary rectangular waveguide for use in electronic equipment.

It covers requirements for flanges drilled before or after mounting on waveguides. It should be noted that for optimum electrical performance, post-drilling of the alignment holes after mounting is recommended.

The aim of this standard is to specify for waveguide flanges the mechanical requirements necessary to ensure compatibility and, as far as practicable, interchangeability as well as to ensure adequate electrical performance.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60050 (all parts), *International Electrotechnical Vocabulary* (available at <http://www.electropedia.org/)

IEC 60153-2:2016, *Hollow metallic waveguides – Part 2: Relevant specifications for ordinary rectangular waveguides*

ISO/IEC Guide 98-3:2008, *Uncertainty of measurement – Part 3: Guide to the expression of uncertainty in measurement (GUM:1995)*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 60050-726 apply.

4 General

4.1 Standardized types

The series of flanges for ordinary rectangular waveguides covered by this standard are shown in Tables 5 to 9 and Figures 1 to 29.

Flat flanges can be used with metal plate air seal gaskets or shims (an example is shown in Figure 13).

4.2 Flange designation

Waveguide flanges covered by the standard shall be indicated by a reference number comprising the following information: