

STN	Optovláknové spájacie prvky a pasívne súčiastky. Základné skúšobné a meracie postupy. Časť 3-51: Vyťahovacia sila kalibrovacích kolíkov pre pravouhlé feruly mnohovláknových konektorov.	STN EN 61300-3-51
		35 9252

Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 3-51: Examinations and measurements - Pin gauge withdrawal force for rectangular ferrule multi-fibre connectors

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. 07/15

Obsahuje: EN 61300-3-51:2014, IEC 61300-3-51:2014

121114

Úrad pre normalizáciu, metrológiu a skúšobníctvo SR, 2015

Podľa zákona č. 264/1999 Z. z. v znení neskorších predpisov sa môžu slovenské technické normy rozmnôžovať a rozširovať iba so súhlasom Úradu pre normalizáciu, metrológiu a skúšobníctvo SR.

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 61300-3-51

November 2014

ICS 33.180.20

English Version

**Fibre optic interconnecting devices and passive components -
Basic test and measurement procedures -
Part 3-51: Examinations and measurements - Pin gauge
withdrawal force for rectangular ferrule multi-fibre connectors
(IEC 61300-3-51:2014)**

Dispositifs d'interconnexion et composants passifs
à fibres optiques - Procédures fondamentales d'essais et de
mesures - Partie 3-51: Examens et mesures - Force
d'extraction d'une broche calibrée pour des connecteurs
multifibres à férûle rectangulaire
(CEI 61300-3-51:2014)

Lichtwellenleiter - Verbindungselemente und passive
Bauteile - Grundlegende Prüf- und Messverfahren -
Teil 3-51: Untersuchungen und Messungen - Prüfstift
Ausziehkraft von rechteckigen Ferrulen von
Mehrfachfasersteckverbindern
(IEC 61300-3-51:2014)

This European Standard was approved by CENELEC on 2014-11-14. 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

Foreword

The text of document 86B/3817/FDIS, future edition 1 of IEC 61300-3-51, prepared by SC 86B "Fibre optic interconnecting devices and passive components" of IEC/TC 86 "Fibre optics" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 61300-3-51:2014.

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) 2015-08-14
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2017-11-14

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 61300-3-51:2014 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following note has to be added for the standard indicated :

IEC 61300-3-49 NOTE Harmonized as EN 61300-3-49.

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

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 61300-3-1	-	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 3-1: Examinations and measurements - Visual examination	EN 61300-3-1	-
IEC 61754-5	-	Fibre optic connector interfaces - Part 5: Type MT connector family	EN 61754-5	-
IEC 61754-7-1	-	Fibre optic interconnecting devices and passive components - Fibre optic connector interfaces - Part 7-1: Type MPO connector family - One fibre row	EN 61754-7-1	-
IEC 61754-7-2	-	Fibre optic interconnecting devices and passive components - Fibre optic connector interfaces - Part 7-2: Type MPO connector family - Two fibre rows	EN 61754-7-2	-
IEC 61754-10	-	Fibre optic connector interfaces - Part 10: Type Mini-MPO connector family	EN 61754-10	-
IEC 61754-18	-	Fibre optic connector interfaces - Part 18: Type MT-RJ connector family	EN 61754-18	-



INTERNATIONAL STANDARD

NORME INTERNATIONALE



Fibre optic interconnecting devices and passive components – Basic test and measurement procedures –

Part 3-51: Examinations and measurements – Pin gauge withdrawal force for rectangular ferrule multi-fibre connectors

Dispositifs d'interconnexion et composants passifs à fibres optiques –

Procédures fondamentales d'essais et de mesures –

Partie 3-51: Examens et mesures – Force d'extraction d'une broche calibrée pour des connecteurs multifibres à férule rectangulaire





THIS PUBLICATION IS COPYRIGHT PROTECTED

Copyright © 2014 IEC, Geneva, Switzerland

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either IEC or IEC's member National Committee in the country of the requester. If you have any questions about IEC copyright or have an enquiry about obtaining additional rights to this publication, please contact the address below or your local IEC member National Committee for further information.

Droits de reproduction réservés. Sauf indication contraire, aucune partie de cette publication ne peut être reproduite ni utilisée sous quelque forme que ce soit et par aucun procédé, électronique ou mécanique, y compris la photocopie et les microfilms, sans l'accord écrit de l'IEC ou du Comité national de l'IEC du pays du demandeur. Si vous avez des questions sur le copyright de l'IEC ou si vous désirez obtenir des droits supplémentaires sur cette publication, utilisez les coordonnées ci-après ou contactez le Comité national de l'IEC de votre pays de résidence.

IEC Central Office
3, rue de Varembé
CH-1211 Geneva 20
Switzerland

Tel.: +41 22 919 02 11
Fax: +41 22 919 03 00
info@iec.ch
www.iec.ch

About the IEC

The International Electrotechnical Commission (IEC) is the leading global organization that prepares and publishes International Standards for all electrical, electronic and related technologies.

About IEC publications

The technical content of IEC publications is kept under constant review by the IEC. Please make sure that you have the latest edition, a corrigenda or an amendment might have been published.

IEC Catalogue - webstore.iec.ch/catalogue

The stand-alone application for consulting the entire bibliographical information on IEC International Standards, Technical Specifications, Technical Reports and other documents. Available for PC, Mac OS, Android Tablets and iPad.

IEC publications search - www.iec.ch/searchpub

The advanced search enables to find IEC publications by a variety of criteria (reference number, text, technical committee,...). It also gives information on projects, replaced and withdrawn publications.

IEC Just Published - webstore.iec.ch/justpublished

Stay up to date on all new IEC publications. Just Published details all new publications released. Available online and also once a month by email.

Electropedia - www.electropedia.org

The world's leading online dictionary of electronic and electrical terms containing more than 30 000 terms and definitions in English and French, with equivalent terms in 14 additional languages. Also known as the International Electrotechnical Vocabulary (IEV) online.

IEC Glossary - std.iec.ch/glossary

More than 55 000 electrotechnical terminology entries in English and French extracted from the Terms and Definitions clause of IEC publications issued since 2002. Some entries have been collected from earlier publications of IEC TC 37, 77, 86 and CISPR.

IEC Customer Service Centre - webstore.iec.ch/csc

If you wish to give us your feedback on this publication or need further assistance, please contact the Customer Service Centre: csc@iec.ch.

A propos de l'IEC

La Commission Electrotechnique Internationale (IEC) est la première organisation mondiale qui élabore et publie des Normes internationales pour tout ce qui a trait à l'électricité, à l'électronique et aux technologies apparentées.

A propos des publications IEC

Le contenu technique des publications IEC est constamment revu. Veuillez vous assurer que vous possédez l'édition la plus récente, un corrigendum ou amendement peut avoir été publié.

Catalogue IEC - webstore.iec.ch/catalogue

Application autonome pour consulter tous les renseignements bibliographiques sur les Normes internationales, Spécifications techniques, Rapports techniques et autres documents de l'IEC. Disponible pour PC, Mac OS, tablettes Android et iPad.

Recherche de publications IEC - www.iec.ch/searchpub

La recherche avancée permet de trouver des publications IEC en utilisant différents critères (numéro de référence, texte, comité d'études,...). Elle donne aussi des informations sur les projets et les publications remplacées ou retirées.

IEC Just Published - webstore.iec.ch/justpublished

Restez informé sur les nouvelles publications IEC. Just Published détaille les nouvelles publications parues. Disponible en ligne et aussi une fois par mois par email.

Electropedia - www.electropedia.org

Le premier dictionnaire en ligne de termes électroniques et électriques. Il contient plus de 30 000 termes et définitions en anglais et en français, ainsi que les termes équivalents dans 14 langues additionnelles. Egalement appelé Vocabulaire Electrotechnique International (IEV) en ligne.

Glossaire IEC - std.iec.ch/glossary

Plus de 55 000 entrées terminologiques électrotechniques, en anglais et en français, extraites des articles Termes et Définitions des publications IEC parues depuis 2002. Plus certaines entrées antérieures extraites des publications des CE 37, 77, 86 et CISPR de l'IEC.

Service Clients - webstore.iec.ch/csc

Si vous désirez nous donner des commentaires sur cette publication ou si vous avez des questions contactez-nous: csc@iec.ch.



INTERNATIONAL STANDARD

NORME INTERNATIONALE



Fibre optic interconnecting devices and passive components – Basic test and measurement procedures –

Part 3-51: Examinations and measurements – Pin gauge withdrawal force for rectangular ferrule multi-fibre connectors

Dispositifs d'interconnexion et composants passifs à fibres optiques –

Procédures fondamentales d'essais et de mesures –

Partie 3-51: Examens et mesures – Force d'extraction d'une broche calibrée pour des connecteurs multifibres à férule rectangulaire

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

COMMISSION
ELECTROTECHNIQUE
INTERNATIONALE

PRICE CODE
CODE PRIX

Q

ICS 33.180.20

ISBN 978-2-8322-1886-0

Warning! Make sure that you obtained this publication from an authorized distributor.

Attention! Veuillez vous assurer que vous avez obtenu cette publication via un distributeur agréé.

CONTENTS

FOREWORD	4
1 Scope	6
2 Normative references	6
3 General description	7
3.1 General.....	7
3.2 Test conditions	7
4 Apparatus	7
4.1 Fixture	7
4.2 Pin gauge chuck	7
4.3 Plug gauge chuck	7
4.4 Pin gauge	7
4.5 Plug gauge	8
4.6 Weight	9
4.7 Tensile testing machine	9
5 Procedure.....	9
5.1 Method A: Method using the weight (Figure 3)	9
5.2 Method B: Method using the tensile testing machine (Figure 4)	10
6 Details to be specified	12
Annex A (informative) Experimental verification of the interchangeability between the pin gauge insertion force and the pin gauge withdrawal force	13
A.1 General.....	13
A.2 Measurement system	13
A.3 Measurement sample	13
A.4 Measurement procedure	14
A.5 Measurement results.....	14
A.6 Conclusion.....	15
Annex B (informative) Experimental verification of compatibility of Method A (method using the weight) and Method B (method using the tensile testing machine)	16
Bibliography.....	17
Figure 1 – Pin gauge.....	8
Figure 2 – Plug gauge for guide pin holes	8
Figure 3 – Method A for examination of pin gauge/plug gauge withdrawal force (method using the weight).....	10
Figure 4 – Method B for examination of pin gauge/plug gauge withdrawal force (method using the tensile testing machine)	11
Figure A.1 – Measurement system	13
Figure A.2 – Insertion/withdrawal force measurement results	14
Figure B.1 – Relation between the withdrawal force values measured by Method A and Method B	16

Table 1 – Test conditions	7
Table 2 – Dimensions of the pin gauge	8
Table 3 – Dimensions for plug gauge for guide pin holes	9
Table A.1 – Guide hole pitch of measurement samples	14

INTERNATIONAL ELECTROTECHNICAL COMMISSION

**FIBRE OPTIC INTERCONNECTING
DEVICES AND PASSIVE COMPONENTS –
BASIC TEST AND MEASUREMENT PROCEDURES –**
**Part 3-51: Examinations and measurements –
Pin gauge withdrawal force for rectangular ferrule multi-fibre connectors**
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 61300-3-51 has been prepared by subcommittee 86B: Fibre optic interconnecting devices and passive components, of IEC technical committee 86: Fibre optics.

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

FDIS	Report on voting
86B/3817/FDIS	86B/3844/RVD

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 61300 series, published under the general title, *Fibre optic interconnecting and passive components – Basic test and measurement procedures*, 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 web site 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.

FIBRE OPTIC INTERCONNECTING DEVICES AND PASSIVE COMPONENTS – BASIC TEST AND MEASUREMENT PROCEDURES –

Part 3-51: Examinations and measurements – Pin gauge withdrawal force for rectangular ferrule multi-fibre connectors

1 Scope

This part of IEC 61300 is intended to describe the procedure required to measure the pin gauge withdrawal force for rectangular ferrule multi-fibre connectors.

This measurement can be used as an alternative to the measurement of the pin gauge insertion force, both of which evaluate the fit of the pin gauge(s) into the guide pin hole(s) of the female-type connector. The experimental verification of interchangeability between them is shown in Annex A.

For the male-type connector, IEC 61300-3-49 is applied to evaluate how securely the guide pins are retained in the guide holes.

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 61300-3-1, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 3-1: Examinations and measurements – Visual examination*

IEC 61754-5, *Fibre optic interconnecting devices and passive components – Fibre optic connector interfaces – Part 5: Type MT connector family*

IEC 61754-7-1, *Fibre optic interconnecting devices and passive components – Fibre optic connector interfaces – Part 7-1: Type MPO connector family – One fibre row*¹

IEC 61754-7-2, *Fibre optic interconnecting devices and passive components – Fibre optic connector interfaces – Part 7-2: Type MPO connector family – Two fibre rows*¹

IEC 61754-10, *Fibre optic interconnecting devices and passive components – Fibre optic connector interfaces – Part 10: Type Mini-MPO connector family*

IEC 61754-18, *Fibre optic interconnecting devices and passive components – Fibre optic connector interfaces – Part 18: Type MT-RJ connector family*

koniec náhľadu – text d'alej pokračuje v platenej verzii STN

¹ To be published.