

INTERNATIONAL STANDARD

NORME INTERNATIONALE

**Optical fibre cables –
Part 1-303: Generic specification – Basic optical cable test procedures – Ribbon
dimensions – Aperture gauge, method G3**

**Câbles à fibres optiques –
Partie 1-303: Spécification générique – Procédures fondamentales d'essai des
câbles optiques – Dimensions du ruban – Gabarit d'ouverture, méthode G3**



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IEC Secretariat
3, rue de Varembe
CH-1211 Geneva 20
Switzerland

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

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ELECTROTECHNICAL
COMMISSION

COMMISSION
ELECTROTECHNIQUE
INTERNATIONALE

ICS 33.180.10

ISBN 978-2-8322-6757-8

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

OPTICAL FIBRE CABLES –

**Part 1-303: Generic specification –
Basic optical cable test procedures –
Ribbon dimensions – Aperture gauge, method G3**

FOREWORD

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IEC 60794-1-303 has been prepared by subcommittee 86A: Fibres and cables, of IEC technical committee 86: Fibre optics. It is an International Standard.

This document partially cancels and replaces IEC 60794-1-23:2019. In the context of the revision of IEC 60794-1-23:2019, its contents were split into separate test methods.

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

Draft	Report on voting
86A/2299/FDIS	86A/2319/RVD

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

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/publications.

A list of all parts in the IEC 60794 series, published under the general title *Optical fibre cables*, 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 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- withdrawn,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
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INTRODUCTION

This document contains method G3 of IEC 60794-1-23:2019, which will be withdrawn. The system for optical fibre test methods have been restructured and renumbered. The optical cable element test methods contained in IEC 60794-1-23:2019 will now be individually numbered in the IEC 60794-1-3xx series. Each test method is now considered to be an individual document rather than part of a multi-test method compendium. Full cross-reference details are given in IEC 60794-1-2.

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OPTICAL FIBRE CABLES –

Part 1-303: Generic specification – Basic optical cable test procedures – Ribbon dimensions – Aperture gauge, method G3

1 Scope

This part of IEC 60794 describes test procedures to be used in establishing uniform requirements for the geometrical properties of optical fibre ribbons.

This document applies to optical fibre ribbons for use with telecommunication equipment and devices employing similar techniques, and to optical fibre ribbons for cables having a combination of both optical fibres and electrical conductors.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60794-1-2, *Optical fibre cables – Part 1-2: Generic specification – Basic optical cable test procedures – General guidance*

IEC 60794-1-23:2019, *Optical fibre cables – Part 1-23: Generic specification – Basic optical cable test procedures – Cable element test methods*

3 Terms and definitions

No terms and definitions are listed in this document.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

4 General requirements

IEC 60794-1-2 is the reference guide to this test method. It shall be considered for general requirements and definitions.

5 Method G3: Ribbon dimensions – Visual method

5.1 Object

The purpose of this test is to verify the functional performance of a ribbon. In order to ensure functional performance, the dimensions of ribbons may be controlled and verified for final inspection purposes with an aperture gauge. The intent is to verify that the end portion of a ribbon can be inserted into and would be reasonably aligned to the guide slots of commercial stripping tools.

5.2 Sample

Unless otherwise specified in the detail specification, five representative ribbon samples, each with a minimum length of 50 mm, shall be taken from the ribbon to be tested.

5.3 Apparatus

An aperture gauge, as shown in Figure 1, shall be used to assess the overall dimensions of a ribbon. The values for ribbon width (w) and ribbon height (h) of Figure 1 shall be the nominal ribbon dimensions as established using method G2 of IEC 60794-1-23 (Ribbon dimensions and geometry) in an appropriate quality assessment scheme.

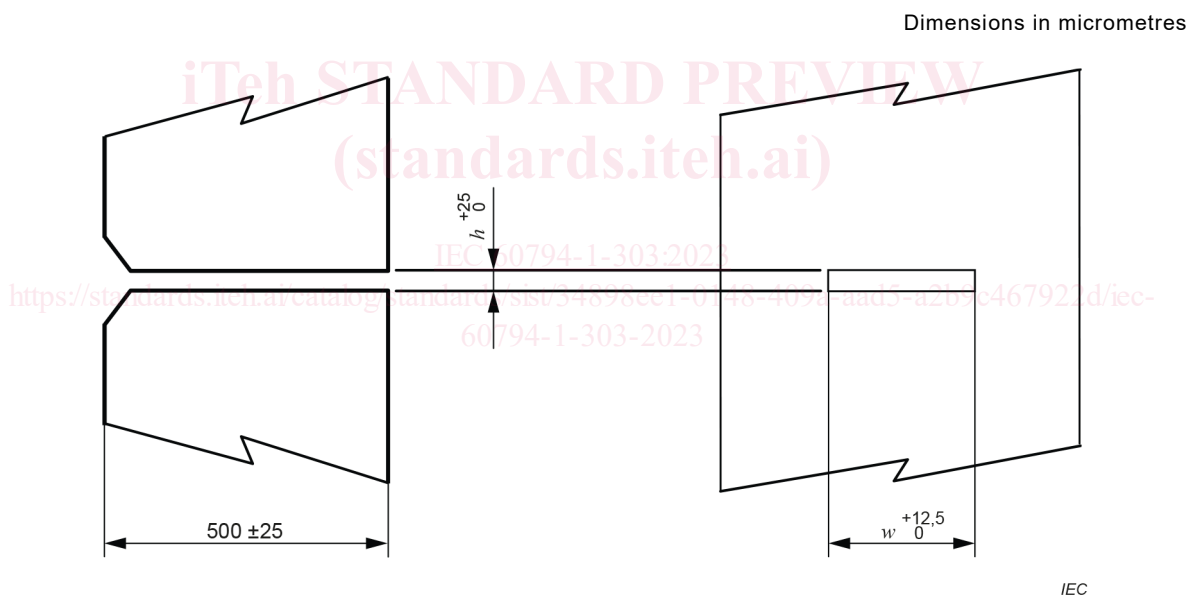


Figure 1 – Aperture gauge

5.4 Procedure

The ribbon sample to be tested is held in the middle, and a 10 mm end portion is inserted through the aperture gauge.

In the case of that the ribbon has flexibility, for example in the case of having partially-bonded configuration, the dimensions of the ribbon should be inserted through the aperture gauge under the condition in which tested ribbon is configured in such a way where all the individual fibres are aligned in approximately the same plane across the ribbon width with the ribbon in an unexpanded state. The example of a typical partially-bonded ribbon is illustrated in IEC 60794-1-31:2021, Figure 3.

5.5 Requirement

It shall be possible for the 10 mm ribbon end portion to be freely inserted through the aperture gauge without mechanical damage to the sample.

5.6 Details to be specified

The detail specification shall include the following:

- a) dimensions of the aperture gauge;
- b) number of samples to be tested.

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