Optical fibre cables - Part 1-133: Generic specifications - Basic optical cable test procedures - Mechanical test methods - Multiple cable coiling and uncoiling performance, method E33

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NATIONAL FOREWORD

See Eesti standard EVS-EN IEC 60794-1-133:2025 sisaldab Euroopa standardi EN IEC 60794-1-133:2025 ingliskeelset teksti.	This Estonian standard EVS-EN IEC 60794-1-133:2025 consists of the English text of the European standard EN IEC 60794-1-133:2025.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.
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Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

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Optical fibre cables - Part 1-133: Generic specifications - Basic optical cable test procedures - Mechanical test methods - Multiple cable coiling and uncoiling performance, Method E33 (IEC 60794-1-133:2025)

Câbles à fibres optiques - Partie 1-133 : Spécifications génériques - Procédures fondamentales d'essais des câbles optiques - Méthodes d'essais mécaniques - Performances d'enroulement et de déroulement multiples des câbles, Méthode E33
(IEC 60794-1-133:2025)

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(IEC 60794-1-133:2025)

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

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The text of the International Standard IEC 60794-1-133:2025 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 standard indicated:

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INTERNATIONAL STANDARD

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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Optical fibre cables - Part 1-133: Generic specifications - Basic optical cable test procedures - Mechanical test methods - Multiple cable coiling and uncoiling performance, Method E33

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IEC 60794-1-133 has been prepared by subcommittee 86A: Fibres and cables, of IEC technical committee 86: Fibre optics. It is an International Standard.

This first edition of IEC 60794-1-133 cancels and replaces Method E33 of the second edition of the IEC 60794-1-21:2015/AMD1:2020, which will be withdrawn. It includes an editorial revision, based on the new structure and numbering system for optical fibre test methods.

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

Draft	Report on voting
86A/2568/FDIS	86A/2590/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.

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.

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.

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, or
– revised.

INTRODUCTION

This document defines the test Method E33, to demonstrate the ability of an optical fibre cable to withstand multiple coiling and uncoiling on a specified diameter of cable reel.

The used cable reels for cables for mobile rapid or multiple deployment have often a core diameter significant smaller than those of the transport cable reels after manufacturing. This test method determines the performance of such cables when they are coiled and uncoiled multiple times on a cable reel.

The mechanical tests contained in IEC 60794-1-21:2015 and IEC 60794-1-21:2015/AMD1:2020 will be individually numbered in the IEC 60794-1-1xx 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.

The numbering of this test method continues the E-series numbering sequence of IEC 60794-1-21:2015 and IEC 60794-1-21:2015/AMD1:2020. This document cancels and replaces Method E33 of IEC 60794-1-21:2015/AMD1:2020, which will be withdrawn. It includes an editorial revision, based on the new structure and numbering system for optical fibre cable test methods. Additionally, editorial changes were implemented to improve the content, for example inclusion of a new subclause 4.7 for details to be reported and an informative Annex A with examples of practical test set-ups.

1 Scope

This part of IEC 60794 defines the test procedure to demonstrate the ability of an optical fibre cable to withstand multiple coiling and uncoiling on a specified diameter of cable reel.

This test is primarily intended to evaluate the performance of cables for mobile rapid or multiple deployment.

See IEC 60794-1-2 for a reference guide to test methods of all types and for general requirements.

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 60793-1-46, *Optical fibres - Part 1-46: Measurement methods and test procedures - Monitoring of changes in attenuation*

IEC 60794-1-1, *Optical fibre cables - Part 1-1: Generic specification - General*

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

3 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 60794-1-1 apply.

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

– IEC Electropedia: available at https://www.electropedia.org/
– ISO Online browsing platform: available at https://www.iso.org/obp

4 Method E33 – Multiple cable coiling and uncoiling performance

4.1 Objective

The purpose of this test is to demonstrate the ability of an optical fibre cable to withstand multiple coiling and uncoiling on a specified diameter of cable reel. This test is primarily intended to evaluate the performance of cables for mobile rapid or multiple deployment.

The intention of the test is to examine the attenuation change and the physical damage of the cable as a function of the multiple coiling and uncoiling which can occur during operation. This method is intended to be non-destructive.