PD IEC TR 63194:2019

BSI Standards Publication

Guidance on colour coding of optical fibre cables

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National foreword

This Published Document is the UK implementation of IEC TR 63194:2019.

The UK participation in its preparation was entrusted to Technical Committee GEL/86/1, Optical fibres and cables.

A list of organizations represented on this committee can be obtained on request to its secretary.

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Published by BSI Standards Limited 2019

ISBN 978 0 539 01011 4

ICS 33.180.10

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This Published Document was published under the authority of the Standards Policy and Strategy Committee on 28 February 2019.

Amendments/corrigenda issued since publication

Date	Text affected

IEC TR 63194

Edition 1.0 2019-01

TECHNICAL REPORT

colour inside

Guidance on colour coding of optical fibre cables

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

ICS 33.180.10

ISBN 978-2-8322-6517-8

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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GUIDANCE ON COLOUR CODING OF OPTICAL FIBRE CABLES

FOREWORD

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IEC TR 63194, which is a Technical Report, has been prepared by subcommittee 86A: Fibres and cables, of IEC technical committee 86: Fibre optics.

The text of this Technical Report is based on the following documents:

Draft TR	Report on voting
86A/1870/DTR	86A/1891A/RVDTR

Full information on the voting for the approval of this Technical Report 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.

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- withdrawn,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.

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

0.1 General

Colour coding of fibres is a useful method to uniquely identify fibres within a cable. For most fibre system architectures, such identification is considered essential.

A number of schemes for fibre identification have evolved in various regions. Attempts to unify the schemes have not yet been successful, as they are embedded in the system architecture.

Jacket colour coding is frequently used for a variety of reasons – most commonly in indoor cables.

Colour coding of both fibres and jackets has been addressed in IEC 60794-2 [5] [6][1] and in IEC 60794-3-11. The intent of this document is to collect that and other relevant information for application to all cable types defined by IEC 60794 (all parts).

0.2 Background in other documents

IEC 60304 [1] defines the 12 colours currently identified for fibre identification, but does not specify which colour is for which fibre number. IEC 60794-2:2002 [5] does define a colour code, but this has been determined to have been construed as not representing any existing major colour code; furthermore, it was never adopted by any region. Further discussion of both documents is included in the text that follows.

IEC 60794-1-1 [4] contains specific language on the intent of colour coding, and notes that it is "as agreed". This document expands on that intent, offering several specific examples that exist in the various regions. Where the information is available, this document notes the regional specifications from which these examples are taken.

[1] Numbers in square brackets refer to the Bibliography.

GUIDANCE ON COLOUR CODING OF OPTICAL FIBRE CABLES

1 Scope

This document examines the need for and intent of colour coding of optical fibre cables. Further, this document lists the major colour codes in various regions throughout the world. Noting that decades of discussion of a universal recommended colour coding scheme has failed to bring about an agreement, this document does not intend to promote any listed colour code above any other.

This document includes regional information on the colour coding of units when different from the fibre code, and of jackets to convey information about the types of fibres within, or the types of performance expected. It also includes information on colours beyond the basic 12 set out in IEC 60304.

This document is not a normative document, but, rather, a guide to the subject of colour coding of cables.

2 Normative references

There are no normative references in this document.

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 Rationale

The need to uniquely identify a particular fibre within a cable is a common and rational requirement for cable standards. The determination of which fibre is which – without having to resort to "ringing it out" – is a key criteria in cable system management. A definition of an agreed cable colour coding scheme has been discussed in past years. But it has not been possible to reach agreement within the IEC because several embedded regional coding schemes exist that are part and parcel of the fibre system architecture.

The regional coding schemes are presented in Annexes A to G, as follows:

- Annex A: Germany;
- Annex B: North America;
- Annex C: Sweden;
- Annex D: Switzerland;
- Annex E: China;
- Annex F: Japan;
- Annex G: Brazil.