

DRAFT TANZANIA STANDARD

(Draft for comments only)

Optical fibre cables – Part 3-20: Outdoor cables – Family specification for self-supporting aerial telecommunication cables

TANZANIA BUREAU OF STANDARDS

This draft Tanzania Standard is being prepared by the Telecommunications and Information Technology Technical Committee, under the supervision of the Electrotechnical divisional standards committee (EDC)

This draft Tanzania Standard is an adoption of the International Standard **IEC 60794-3-20:2016** Optical fibre cables – Part 3-20: Outdoor cables – Family specification for self-supporting aerial telecommunication cables, which has been prepared by the International Electrotechnical Commission

2 Terminology and conventions

Some terminologies and certain conventions are not identical with those used in Tanzania standards; attention is drawn especially to the following: -

- 1) The comma has been used as a decimal marker for metric dimensions. In Tanzania Standards, it is current practice to use "full point" on the baseline as the decimal marker.
- 2) Where the words "International Standard(s)" appear, referring to this standard they should read "Tanzania Standard(s)".



R

IEC 60794-3-20

Edition 3.0 2016-09

colour inside

INTERNATIONAL STANDARD NORME INTERNATIONALE

Optical fibre cables – Part 3-20: Outdoor cables – Family specification for self-supporting aerial telecommunication cables

Câbles à fibres optiques – Partie 3-20: Câbles extérieurs – Spécification de famille pour les câbles de télécommunication aériens autoporteurs

INTERNATIONAL ELECTROTECHNICAL COMMISSION

COMMISSION ELECTROTECHNIQUE INTERNATIONALE

ICS 33.180.10

ISBN 978-2-8322-3619-2

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.

 Registered trademark of the International Electrotechnical Commission Marque déposée de la Commission Electrotechnique Internationale

watton stateholders comments of

-2-

IEC 60794-3-20:2016 © IEC 2016

CONTENTS

FOREWORD				
1	Scope	9	5	
2	Normative references			
3	3 Terms and definitions			
4	4 Symbols and abbreviations			
5	General Requirements			
	5.1	Optical fibres	6	
	5.2	Cable elements	6	
	5.3	Optical fibre cable construction	6	
6	Details	6		
	6.1	General	6	
	6.2	Tensile performance	6	
	6.3	Crush	7	
	6.4	Impact	7	
	6.5	Repeated bending	7	
	6.6	Torsion	7	
	6.7	Bend	8	
	6.8	Bending under tension	8	
	6.9 6.10	Temperature cycling	9	
	6.10 6.11	Aging	9	
	6.12	Installation conditions	9	
Annex A (normative) Blank detail specification and minimum requirements			10	
/ 11	A.1	Cable description	10	
	A.1 A.2	Cable construction	10	
Annex B (informative) Examples of cables construction and installation			13	
Bibliography				
	Silogiap		14	
Fig	gure B.	1 – Lashed and suspended cable	13	
Figure B.2 – SSW cable (self-supporting with windows)				
Figure B.3 – Round aerial self-supported cable				

IEC 60794-3-20:2016 © IEC 2016

-3-

INTERNATIONAL ELECTROTECHNICAL COMMISSION

OPTICAL FIBRE CABLES –

Part 3-20: Outdoor cables – Family specification for self-supporting aerial telecommunication cables

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 committee; 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.
- 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.
- 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.
- 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 60794-3-20 has been prepared by Subcommittee 86A: Fibres and cables, of IEC Technical Committee 86: Fibre optics.

This third edition cancels and replaces the second edition published in 2009. It constitutes a technical revision.

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

- a) the specification has been streamlined by cross-referencing IEC 60794-1-1, IEC 60794-1-2 and the IEC 60794-3 series;
- b) an annex containing the MICE table has been deleted;
- c) an annex on examples has been added.

- 4 -

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

FDIS	Report on voting
86A/1733/FDIS	86A/1760/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 60794- 3 series, published under the general title *Optical fibre cables* – *Part 3: Outdoor cables*, 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.

IEC 60794-3-20:2016 © IEC 2016

-5-

OPTICAL FIBRE CABLES –

Part 3-20: Outdoor cables – Family specification for self-supporting aerial telecommunication cables

1 Scope

This part of IEC 60794, which is a family specification, covers optical self -supporting aerial telecommunication cables. Requirements of the sectional specification IEC 60794-3 for duct, buried and aerial cables are applicable to cables covered by this standard.

Self- supporting aerial telecommunication cable in this context means a cable construction with sufficient strength members designed to be suspended on poles and similar devices without the aid of another supporting wire or conductor. ADSS cables installed on power lines which require special sheath material for tracking and erosion resistance and other constructions intended for high-voltage applications are not covered by this standard.

Detail specifications may be prepared based on this family specification.

NOTE IEC TR 62839-1 gives rules to build an environmental declaration if needed.

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 60793-2, Optical fibres – Part 2: Product specifications – General

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

IEC 60794-1-21, Optical fibre cables – Part 1-21: Generic specification – Basic optical cable test procedures – Mechanical tests methods

IEC 60794-1-22:2012, Optical fibre cables – Part 1-22: Generic specification – Basic optical cable test procedures – Environmental tests methods

IEC 60794-3:2014, Optical fibre cables – Part 3: Outdoor cables – Sectional specification

IEC 60811-203, Electric and optical fibre cables – Test methods for non-metallic materials – Part 203: General tests – Measurement of overall dimensions

IEC 60811-302, Electric and optical fibre cables – Test methods for non-metallic materials – Part 302: Electrical tests – Measurement of the d.c. resistivity at 23 °C and 100 °C of filling compounds

3 Terms and definitions

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