

STN P	Vodiče pre vonkajšie vedenie Kompozitné jadro vystužené vláknami ako nosný prvok Časť 1: Kompozitné jadrá s polymérou matricou	STN P CLC IEC/TS 62818-1 34 7517
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Conductors for overhead lines - Fiber reinforced composite core used as supporting member material - Part 1: Polymeric matrix composite cores

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. 04/26

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TECHNICAL SPECIFICATION
SPÉCIFICATION TECHNIQUE
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CLC IEC/TS 62818-1

February 2026

ICS 29.240.20

English Version

**Conductors for overhead lines - Fiber reinforced composite core
used as supporting member material - Part 1: Polymeric matrix
composite cores
(IEC/TS 62818-1:2024)**

Conducteurs pour lignes aériennes - Âme composite
renforcé par fibres, utilisé en tant que matériau de support -
Partie 1: Âmes composites à matrice polymère
(IEC/TS 62818-1:2024)

Leiter für Freileitungen - Kern aus faserverstärktem
Verbundwerkstoff als tragendes Material - Teil 1: Kerne aus
Polymermatrix-Verbundwerkstoff
(IEC/TS 62818-1:2024)

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Europäisches Komitee für Elektrotechnische Normung

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CLC IEC/TS 62818-1:2026 (E)**European foreword**

This document (CLC IEC/TS 62818-1:2026) consists of the text of document IEC/TS 62818-1:2024, prepared by IEC/TC 7 "Overhead electrical conductors".

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

ISO 6721-1:2019 NOTE Approved as EN ISO 6721-1:2019 (not modified)

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

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.

NOTE 1 Where an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

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<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60068-2-11	2021	Environmental testing - Part 2-11: Tests - Test Ka: Salt mist	EN IEC 60068-2-11	2021
IEC 60216-1	2013	Electrical insulating materials - Thermal endurance properties - Part 1: Ageing procedures and evaluation of test results	EN 60216-1	2013
IEC 60468	1974	Method of measurement of resistivity of metallic materials	-	-
ISO 527-5	2021	Plastics - Determination of tensile properties - Part 5: Test conditions for unidirectional fibre-reinforced plastic composites	EN ISO 527-5	2021
ISO 4892-2	2013	Plastics - Methods of exposure to laboratory light sources - Part 2: Xenon-arc lamps	EN ISO 4892-2	2013
ISO 11358-1	2022	Plastics - Thermogravimetry (TG) of polymers - Part 1: General principles	EN ISO 11358-1	2022



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TECHNICAL SPECIFICATION

**Conductors for overhead lines – Fiber reinforced composite core used as supporting member material –
Part 1: Polymeric matrix composite cores**



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Edition 1.0 2024-12

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**Conductors for overhead lines – Fiber reinforced composite core used as supporting member material –
Part 1: Polymeric matrix composite cores**

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**CONDUCTORS FOR OVERHEAD LINES – FIBER REINFORCED
COMPOSITE CORE USED AS SUPPORTING MEMBER MATERIAL –****Part 1: Polymeric matrix composite cores**

FOREWORD

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IEC TS 62818-1 has been prepared by IEC technical committee 7: OVERHEAD ELECTRICAL CONDUCTORS. It is a Technical Specification.

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

Draft	Report on voting
7/752/DTS	7/754/RVDTS

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 Technical Specification is English.

A list of all parts in the IEC 62818 series, published under the general title *Conductors for overhead lines – Fiber reinforced composite core used as supporting member material*, 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.

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INTRODUCTION

The first conductors using a composite core were installed in the early 2000s. Since then, they have been increasingly used by utilities worldwide. As a result, there is a need for an IEC publication to agree on tests methods to qualify these cores.

Because of the variety of products used for this purpose, this document does not set minima or maxima (usually provided by the manufacturer), but rather standardizes testing methods to ascertain the numerical values of the basic properties needed by the purchaser to choose the right supporting member material according to the properties of the overhead lines conductors. Future discussion items for review may include performance level and acceptance criteria, other ageing tests and criteria or other relevant tests.

In a future document, tests on the complete conductor which include the composite core will be covered in detail (for example salt fog, corrosion test, mechanical tests, thermal tests, flexural under tension, etc.).

CONDUCTORS FOR OVERHEAD LINES – FIBER REINFORCED COMPOSITE CORE USED AS SUPPORTING MEMBER MATERIAL –

Part 1: Polymeric matrix composite cores

1 Scope

This part of IEC 62818, which is a Technical Specification, establishes a system of fiber reinforced composite core used as supporting member material in conductors for overhead lines which may be used as the basis for specifications. This document is applicable to fiber reinforced composite core, with polymeric matrix, used as supporting member material in conductors for overhead lines.

This document gives guidance on:

- defining the common terms used for fiber reinforced composite core with polymeric matrix,
- prescribing common methods and recommendations to characterize the properties of fiber reinforced composite core based on single or multi-wires with PMC (Polymeric Matrix Composite) used as supporting member material in conductors,
- prescribing or recommending acceptance or failure criteria when applicable.

These tests, criteria and recommendations are intended to ensure a satisfactory use and quality under normal operating and environmental conditions.

This document does not apply to compliance criteria which may be required but indicative values could be given in Annexes for guidance.

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 60068-2-11:2021, *Environmental testing – Part 2-11: Tests – Test Ka: Salt mist*

IEC 60216-1:2013, *Electrical insulating materials – Thermal endurance properties – Part 1: Ageing procedures and evaluation of test results*

IEC 60468:1974, *Method of measurement of resistivity of metallic materials*

ISO 527-5:2021, *Plastics: Determination of tensile properties – Part 5: Test conditions for unidirectional fiber-reinforced plastic composites*

ISO 4892-2:2013, *Plastics: Methods of exposure to laboratory light sources – Part 2: Xenon-arc lamps*

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