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colour inside

~~Loading Tests on~~ Overhead line structures – Loading tests

INTERNATIONAL
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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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~~LOADING TESTS ON~~ OVERHEAD LINE STRUCTURES – LOADING TESTS

FOREWORD

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This redline version of the official IEC Standard allows the user to identify the changes made to the previous edition IEC 60652:2002. A vertical bar appears in the margin wherever a change has been made. Additions are in green text, deletions are in strikethrough red text.

IEC 60652 has been prepared by IEC technical committee 11: Overhead lines. It is an International Standard.

This third edition cancels and replaces the second edition published in 2002. This edition constitutes a technical revision.

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

a) Title modified;
b) Added reference to CIGRE Brochure 399;
c) In Clause 7, added test limitation for wind speed and direction during testing;
d) In paragraph 10.5, added load increments for destruction tests;
e) In paragraph 10.7, added a requirement for an agreement between client and testing station when testing supports made of creep-sensitive materials;
f) In Clause 17, added requirements for sampling procedure to be provided in the test report.

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

FDIS	Report on voting
11/276/FDIS	11/277/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/standardsdev/publications.

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~~LOADING TESTS ON~~ OVERHEAD LINE STRUCTURES – LOADING TESTS

1 Scope

This document ~~codifies~~ specifies the methods and procedures of testing supports for overhead lines.

It applies to the testing of supports and structures of overhead lines ~~for voltages above 45 kV; it can also serve as reference to the testing of lower voltage supports~~.

There is no restriction on the type of material used in the fabrication of the supports which may include, but not be limited to, metallic alloys, concrete, timber, laminated wood and composite materials. If required by the client, this document ~~may~~ can also be applied to the testing of telecommunication supports, railway/tramway overhead electrification supports, electrical substation gantries, street lighting columns, wind turbine towers, ski-lift supports, etc.

Tests on reduced scale models of supports are not covered by this document.

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 60050-466:1990, *International Electrotechnical Vocabulary (IEV) – Part 466: Overhead lines*
IEC 60050-466:1990/AMD1:2020

ISO/IEC 17025:~~1999~~2017, *General requirements for the competence of testing and calibration laboratories*

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IEC 60652

Edition 3.0 2021-07

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Overhead line structures – Loading tests

Structures des lignes aériennes – Essais mécaniques

IEC 60652:2021-07(en-fr)

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OVERHEAD LINE STRUCTURES – LOADING TESTS

1 Scope

This document specifies the methods and procedures of testing supports for overhead lines.

It applies to the testing of supports and structures of overhead lines.

There is no restriction on the type of material used in the fabrication of the supports which may include, but not be limited to, metallic alloys, concrete, timber, laminated wood and composite materials. If required by the client, this document can also be applied to the testing of telecommunication supports, railway/tramway overhead electrification supports, electrical substation gantries, street lighting columns, wind turbine towers, ski-lift supports, etc.

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COMMISSION ÉLECTROTECHNIQUE INTERNATIONALE

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STRUCTURES DES LIGNES AÉRIENNES – ESSAIS MÉCANIQUES

AVANT-PROPOS

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L'IEC 60652 a été établie par le comité d'études 11 de l'IEC: Lignes aériennes. Il s'agit d'une Norme internationale.

Cette troisième édition annule et remplace la deuxième édition parue en 2002. Cette édition constitue une révision technique.

Cette édition inclut les modifications techniques majeures suivantes par rapport à l'édition précédente:

a) le titre a été modifié;
b) une référence à la brochure 399 du CIGRE a été ajoutée;
c) à l'Article 7, des limites d'essai ont été ajoutées pour la vitesse et la direction du vent lors des essais;
d) en 10.5, des incréments de charge ont été ajoutés pour les essais destructifs;

e) en 10.7, une exigence a été ajoutée aux essais de supports constitués de matériaux sensibles au fluage : celle-ci est soumise à l'accord entre la station d'essais et le client;

f) à l'Article 17, des exigences ont été ajoutées pour la procédure d'échantillonnage en vue d'étayer le rapport d'essai.

Le texte de cette Norme internationale est issu des documents suivants:

FDIS	Rapport de vote
11/276/FDIS	11/277/RVD

Le rapport de vote indiqué dans le tableau ci-dessus donne toute information sur le vote ayant abouti à son approbation.

La langue employée pour l'élaboration de cette Norme internationale est l'anglais.

Le présent document a été rédigé selon les Directives ISO/IEC, Partie 2, il a été développé selon les Directives ISO/IEC, Partie 1 et les Directives ISO/IEC, Supplément IEC, disponibles sous www.iec.ch/members_experts/refdocs. Les principaux types de documents développés par l'IEC sont décrits plus en détail sous www.iec.ch/standardsdev/publications.

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- amendé.

STRUCTURES DES LIGNES AÉRIENNES – ESSAIS MÉCANIQUES

1 Domaine d'application

Le présent document spécifie les méthodes et procédures d'essai pour les supports de lignes aériennes.

Il s'applique aux essais des supports et structures des lignes aériennes.

Aucune restriction ne s'applique au type de matériau utilisé pour la fabrication des supports qui peuvent, entre autres, être réalisés en alliages métalliques, en béton, en bois (éventuellement stratifié) et en matériaux composites. Si le client l'exige, le présent document peut également être appliqué dans le cadre d'essais concernant les supports de télécommunication, les supports d'électrification de lignes aériennes pour les chemins de fer/tramways, les portiques de postes électriques, les supports d'éclairage public et de signalisation, les mâts d'éoliennes, les supports de téléphériques, etc.

Les essais réalisés sur modèles de supports à échelle réduite ne sont pas couverts par le présent document.

2 Références normatives

Les documents suivants sont cités dans le texte de sorte qu'ils constituent, pour tout ou partie de leur contenu, des exigences du présent document. Pour les références datées, seule l'édition citée s'applique. Pour les références non datées, la dernière édition du document de référence s'applique (y compris les éventuels amendements).

IEC 60050-466:1990, *Vocabulaire Electrotechnique International – Chapitre 466: Lignes électriques*
IEC 60050-466:1990/AMD1:2020

ISO/IEC 17025:2017, *Exigences générales concernant la compétence des laboratoires d'étalonnages et d'essais*

Brochure 399:2009 du CIGRE, *Improvement on the Tower Testing Methodology* (disponible en anglais seulement)