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I.S. EN 62004:2009

Thermal resistant aluminium alloy wire for overhead line conductor (IEC 62004:2007 (MOD))

I.S. EN 62004:2009

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English version

**Thermal-resistant aluminium alloy wire
for overhead line conductor
(IEC 62004:2007, modified)**

Fils en alliage d'aluminium
résistant à la chaleur
pour les conducteurs de lignes aériennes
(CEI 62004:2007, modifiée)

Wärmebeständige Drähte
aus Aluminiumlegierung
für Leiter von Freileitungen
(IEC 62004:2007, modifiziert)

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Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

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CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

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Foreword

The text of the International Standard IEC 62004:2007, prepared by IEC TC 7, Overhead electrical conductors, together with common modifications prepared by CENELEC BTTF 129-1, Thermal-resistant aluminium alloy wire for overhead line conductor, was submitted to the formal vote and was approved by CENELEC as EN 62004 on 2009-05-01.

The following dates were fixed:

- latest date by which the EN has to be implemented
at national level by publication of an identical
national standard or by endorsement (dop) 2010-05-01
- latest date by which the national standards conflicting
with the EN have to be withdrawn (dow) 2012-05-01

This European Standard is a consolidated version consisting of the text of the International Standard IEC 62004:2007 plus the agreed common modifications, which are identified by a vertical line in the left margin of the text.

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1 Scope

This European Standard is applicable to thermal-resistant aluminium alloy wires before stranding for manufacture of stranded conductors for overhead lines. It specifies the mechanical, electrical and thermal-resistant properties of wires in the diameter range commercially available.

2 Normative references

The following referenced documents are indispensable for the application 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.

EN 50183:2000, *Conductors for overhead lines - Aluminium-magnesium-silicon alloy wires*

EN 60889:1997, *Hard-drawn aluminium wire for overhead line conductors* (IEC 60889:1987)

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

ISO 7802, *Metallic materials - Wire - Wrapping test*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1

diameter

mean of two measured values at right angles taken at the same cross section

NOTE For non-round wires, the equivalent diameter of the round wire with the same section is used.

3.2

type

thermal-resistant aluminium alloy wires defined as "AT1", "AT2", "AT3" and "AT4"

3.3

thermal-resistant aluminium alloy wire

all types of aluminium-zirconium alloy wire, used at operation temperature higher than that of conventional aluminium-magnesium-silicon alloy wire, as specified in EN 50183, or hard-drawn aluminium wire for overhead line conductors, as specified in EN 60889, with an allowable operating temperature as described in Table 1.

The operation temperature of conventional hard-drawn aluminium wires as well as conventional aluminium-magnesium-silicon alloy wires is limited with 80 °C

4 Designation

The wire designations included in this standard are as follows:

- thermal-resistant aluminium alloy wire with maximum allowable continuous operating temperature of 150 °C, designated AT1;
- extra high-strength, thermal-resistant aluminium alloy wire with maximum allowable continuous operating temperature of 150 °C, designated AT2;
- super thermal-resistant aluminium alloy wire with maximum allowable continuous operating temperature of 210 °C, designated AT3;
- extra thermal-resistant aluminium alloy wire with maximum allowable continuous operating temperature of 230 °C, designated AT4.

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