International Standard

ISO 14811

Ultra-low carbon high boron steel wire rod for copper cladded wire

Fil machine en acier à haute teneur en bore et à très faible teneur en carbone pour les fils gainés de cuivre

First edition
2025-02

Reference number
ISO 14811:2025(en)

© ISO 2025



COPYRIGHT PROTECTED DOCUMENT

© ISO 2025

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

Contents

Page

Foreword ... **iv**
1 Scope ... **1**
2 Normative references ... **1**
3 Terms and definitions ... **1**
4 Designation ... **2**
5 Ordering information ... **2**
6 Production process ... **2**
7 Requirements ... **2**
7.1 Dimensions and tolerances ... 2
7.2 Chemical composition ... 3
7.3 Delivery condition ... 3
7.4 Mechanical properties ... 3
7.5 Internal soundness and surface quality ... 3
7.6 Depth of surface discontinuities ... 3
7.7 Non-metallic inclusion ... 3
7.8 Conductivity ... 3
8 Inspection ... **4**
8.1 Inspection and inspection documents ... 4
8.2 Acceptance unit ... 4
8.3 Test methods ... 4
8.3.1 Diameter and out-of-roundness ... 4
8.3.2 Chemical composition ... 4
8.3.3 Tensile strength ... 4
8.3.4 Surface discontinuities ... 4
8.3.5 Non-metallic inclusion ... 4
8.3.6 Conductivity ... 4
9 Retest ... **5**
10 Marking ... **5**
11 Disputes ... **5**
Bibliography ... **6**

© ISO 2025 – All rights reserved

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

ISO draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). ISO takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, ISO had not received notice of (a) patent(s) which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at www.iso.org/patents. ISO shall not be held responsible for identifying any or all such patent rights.

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 17, *Steel*, Subcommittee SC 17, *Steel wire rod and wire products*.

Any feedback or questions on this document should be directed to the user’s national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

© ISO 2025 – All rights reserved

Ultra-low carbon high boron steel wire rod for copper cladded wire

1 Scope

This document specifies requirements for ultra-low carbon high boron steel wire rod for copper cladded wire, mainly used in telecommunication cable (hereinafter referred to as wire rods). This document applies to wire rods with circular cross-sections and diameters of 5 mm to 20 mm.

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.

ISO 377, *Steel and steel products — Location and preparation of samples and test pieces for mechanical testing*

ISO 404:2013, *Steel and steel products — General technical delivery requirements*

ISO 4885, *Ferrous materials — Heat treatments — Vocabulary*

ISO 6892-1, *Metallic materials — Tensile testing — Part 1: Method of test at room temperature*

ISO 6929, *Steel products — Vocabulary*

ISO 10474, *Steel and steel products — Inspection documents*

ISO 14284, *Steel and iron — Sampling and preparation of samples for the determination of chemical composition*

ISO 16120-1, *Non-alloy steel wire rod for conversion to wire — Part 1: General requirements*

ISO 16120-4:2017, *Non-alloy steel wire rod for conversion to wire — Part 4: Specific requirements for wire rod for special applications*

ISO 16124, *Steel wire rod — Dimensions and tolerances*

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

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 377, ISO 404, ISO 4885, ISO 6929 and the following apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

3.1
copper cladded wire
wire which consists of a steel core with a continuous cladding of copper thoroughly bonded to the core throughout

© ISO 2025 – All rights reserved