

JIS

JAPANESE
INDUSTRIAL
STANDARD

Translated and Published by
Japanese Standards Association

JIS G 3507-1 : 2021

(JISF)

**Carbon steels for cold heading — Part 1:
Wire rods**

ICS 77.140.10 ; 77.140.20 ; 77.140.65

Reference number : JIS G 3507-1: 2021 (E)

G 3507-1 : 2021

Date of Establishment: 2005-01-20

Date of Revision: 2021-04-20

Date of Public Notice in Official Gazette: 2021-04-20

Developed by: The Japan Iron and Steel Federation

Investigated by: The Japan Iron and Steel Federation, Standardization
Center

JIS G 3507-1 : 2021, First English edition published in 2021-12

Translated and published by: Japanese Standards Association
Mita MT Building, 3-13-12, Mita, Minato-ku, Tokyo, 108-0073 JAPAN

In the event of any doubts arising as to the contents,
the original JIS is to be the final authority.

© JSA 2021

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from the publisher.

Printed in Japan

HN

PROTECTED BY COPYRIGHT

Contents

	Page
Introduction	1
1 Scope	1
2 Normative references	1
3 Terms and definitions	2
4 Symbols of grade and applicable diameters	2
5 Manufacturing method	2
6 Chemical composition	3
7 Physical properties	5
7.1 Decarburized depth	5
7.2 Austenitic grain size	5
7.3 Non-metallic inclusion	5
8 Appearance, dimensions and tolerances thereof	5
8.1 Appearance	5
8.2 Standard diameters	6
8.3 Dimensional tolerances	6
9 Tests	6
9.1 Chemical analysis	6
9.2 Metallographic test	7
9.3 Surface flaw detection test	7
10 Inspection	7
11 Marking	8
12 Report	8
Annex JA (normative) Supplementary quality requirements	9
Annex JB (informative) Comparison table between JIS and corresponding International Standard	11

Foreword

This Japanese Industrial Standard has been revised by the Minister of Economy, Trade and Industry based on the provision of Article 14, paragraph (1) of the Industrial Standardization Act applied mutatis mutandis pursuant to the provision of Article 16 of the said Act in response to a proposal for revision of Japanese Industrial Standard with a draft being attached, submitted by The Japan Iron and Steel Federation (JISF), an accredited standards development organization. This edition replaces the previous edition (**JIS G 3507-1:2010**), which has been technically revised.

However, **JIS G 3507-1: 2010** may be applied in the **JIS** mark certification based on the relevant provisions of Article 30, paragraph (1), etc. of the Industrial Standardization Act until 19 April 2022.

This **JIS** document is protected by the Copyright Act.

Attention is drawn to the possibility that some parts of this Standard may conflict with patent rights, published patent application or utility model rights. The relevant Minister is not responsible for identifying any of such patent rights, published patent application or utility model rights.

JIS G 3507 series consists of the following 2 parts under the general title *Carbon steels for cold heading*:

Part 1 : Wire rods

Part 2 : Wires

Carbon steels for cold heading — Part 1 : Wire rods

Introduction

This Japanese Industrial Standard has been prepared based on **ISO 4954** : 2018, Edition 3, with some modifications of the technical contents.

Annex JA is unique to **JIS** and not given in the corresponding International Standard. The vertical lines on both sides and dotted underlines indicate changes from the corresponding International Standard. A list of modifications with the explanations is given in Annex JB.

1 Scope

This Standard specifies requirements for the carbon steel wire rods for cold heading (hereafter referred to as wire rods) which are mainly used for manufacture of the carbon steel wires for cold heading.

NOTE The International Standard corresponding to this Standard and the symbol of degree of correspondence are as follows.

ISO 4954 : 2018 *Steels for cold heading and cold extruding* (MOD)

In addition, symbols which denote the degree of correspondence in the contents between the relevant International Standard and **JIS** are IDT (identical), MOD (modified), and NEQ (not equivalent) according to **ISO/IEC Guide 21-1**.

2 Normative references

Part or all of the provisions of the following standards, through reference in this text, constitute provisions of this Standard. The most recent editions of the standards (including amendments) indicated below shall be applied.

JIS G 0201 *Glossary of terms used in iron and steel (Heat treatment)*

JIS G 0202 *Glossary of terms used in iron and steel (Testing)*

JIS G 0203 *Glossary of terms used in iron and steel (Products and quality)*

JIS G 0320 *Standard test method for heat analysis of steel products*

JIS G 0404 *Steel and steel products — General technical delivery requirements*

JIS G 0415 *Steel and steel products — Inspection documents*

JIS G 0551 *Steels — Micrographic determination of the apparent grain size*

JIS G 0555 *Microscopic testing method for the non-metallic inclusions in steel*

JIS G 0558 *Steels — Determination of depth of decarburization*

JIS G 3191 *Dimensions, mass and permissible variations of hot rolled steel bars and bar in coil*