

Translated and Published by Japanese Standards Association

 $JIS \ G \ 3521$: 2018

(JWPA)

Hard drawn steel wires

ICS 77.140.25;77.140.65

 $Reference\ number:\ JIS\ G\ 3521:2018\ (E)$

G 3521:2018

Date of Establishment: 1953-12-19

Date of Revision: 2018-02-20

Date of Public Notice in Official Gazette: 2018-02-20

Investigated by: Japanese Industrial Standards Committee

Standards Board for ISO area

Technical Committee on Metal and Inorganic

Materials

JIS G 3521:2018, First English edition published in 2018-05

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 2018

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

Contents

	Page
Intro	duction1
1	Scope1
2	Normative references
3	Classification, symbols of grade and applicable wire diameters 1
4	Material ······2
5	Manufacturing method
6 6.1 6.2 6.3 6.4	Mechanical properties2Tensile strength2Winding property3Torsion characteristics3Bendability4
7 7.1 7.2	Wire diameter and its tolerance 4 Standard wire diameter 4 Tolerances on wire diameter and out-of-roundness 4
8	Appearance 4
9 9.1 9.2 9.3 9.4 9.5 9.6	Tests 5 Sampling 5 Tensile test 5 Winding test 5 Torsion test 5 Bend test 5 Measurement of wire diameter 5
10 10.1 10.2	Inspection6Inspection6Reinspection6
11	Marking6
12	Report6
Anne	x JA (informative) Comparison table between JIS and corresponding International Standards

G 3521:2018

Foreword

This translation has been made based on the original Japanese Industrial Standard revised by the Minister of Economy, Trade and Industry, through deliberations at the Japanese Industrial Standards Committee as the result of proposal for revision of Japanese Industrial Standard submitted by Japan Wire Products Association (JWPA) with the draft being attached, based on the provision of Article 12 Clause 1 of the Industrial Standardization Law applicable to the case of revision by the provision of Article 14. Consequently **JIS G 3521**:1991 is replaced with this Standard.

However, **JIS G 3521**:1991 may be applied in the **JIS** mark certification based on the relevant provisions of Article 19 Clause 1, etc. of the Industrial Standardization Law until February 19, 2019.

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

Attention is drawn to the possibility that some parts of this Standard may conflict with patent rights, applications for a patent after opening to the public or utility model rights. The relevant Minister and the Japanese Industrial Standards Committee are not responsible for identifying any of such patent rights, applications for a patent after opening to the public or utility model rights.

Hard drawn steel wires

JIS G 3521:2018

Introduction

This Japanese Industrial Standard has been prepared based on **ISO 8458-1**:2002, Edition 2 and **ISO 8458-2**:2002, Edition 2 with some modifications of the technical contents.

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 JA.

1 Scope

This Standard specifies hard drawn steel wires that are applied mainly to springs for static duty applications (hereafter referred to as wires).

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

ISO 8458-1:2002 Steel wire for mechanical springs—Part 1: General requirements

ISO 8458-2:2002 Steel wire for mechanical springs—Part 2: Patented cold-drawn non-alloy steel wire (overall evaluation: 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

The following standards contain provisions which, 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 B 7502 Micrometers

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

JIS G 0415 Steel and steel products—Inspection documents

JIS G 3506 High carbon steel wire rods

JIS Z 2241 Metallic materials—Tensile testing—Method of test at room temperature

3 Classification, symbols of grade and applicable wire diameters

Wires shall be classified into three grades, and symbol of grade and applicable wire diameters shall be as given in Table 1.