

# JIS

JAPANESE  
INDUSTRIAL  
STANDARD

Translated and Published by  
Japanese Standards Association

---

JIS G 4403 : 2022

(JISF)

**High speed tool steels**

---

ICS 25.100.01 ; 77.140.35

Reference number : JIS G 4403 : 2022 (E)

PROTECTED BY COPYRIGHT

10 S

G 4403 : 2022

Date of Establishment: 1950-10-24

Date of Revision: 2022-05-20

Date of Public Notice in Official Gazette: 2022-05-20

Developed by: The Japan Iron and Steel Federation

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

---

JIS G 4403 : 2022, First English edition published in 2023-01

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 2023

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 Symbol of grade .....	3
5 Manufacturing method .....	4
6 Chemical composition .....	4
7 Hardness .....	5
8 Appearance .....	6
9 Dimensions and dimensional tolerances .....	6
9.1 Dimensions and dimensional tolerances of hot-rolled round bars .....	6
9.2 Dimensions and dimensional tolerances of other tool steels than hot-rolled round bars .....	7
10 Depth of decarburization .....	7
11 Tests .....	7
11.1 Chemical analysis .....	7
11.2 Hardness test .....	8
11.3 Measurement of depth of decarburization .....	8
12 Inspection .....	9
13 Marking .....	10
14 Information to be supplied by the purchaser .....	10
15 Report .....	10
Annex A (informative) Comparable grades between JIS and corresponding International Standard .....	11
Annex JA (informative) Comparison table between JIS and corresponding International Standard .....	12

## 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 4403** : 2015), which has been technically revised.

However, **JIS G 4403** : 2015 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 May 2023.

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.

# High speed tool steels

## Introduction

This Japanese Industrial Standard has been prepared based on **ISO 4957** : 2018, Edition 3, 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 the requirements for high speed tool steels (hereafter referred to as tool steels) manufactured by hot-rolling or hot-forging.

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

ISO 4957 : 2018 *Tool steels* (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 0321 *Product analysis and its tolerance for wrought steel*

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

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

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

JIS G 0701 *Symbols of forming ratio for steel forging*

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

JIS G 3193 *Dimensions, shape, mass and permissible variations of hot rolled steel*