



JAPANESE
INDUSTRIAL
STANDARD

Translated and Published by
Japanese Standards Association

JIS G 4805 : 2025

(JISF)

High carbon chromium bearing steels

ICS 77.140.10

Reference number: JIS G 4805 : 2025 (E)

Date of Establishment: 1950-05-16

Date of Revision: 2025-04-21

Date of Public Notice in Official Gazette: 2025-04-21

Developed by: The Japan Iron and Steel Federation

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

JIS G 4805 : 2025, First English edition published in 2025-09

Translated and published by: Japanese Standards Association
Mita Avanti, 3-11-28, 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 2025

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

Contents

	Page
Introduction	1
1 Scope	1
2 Normative references	1
3 Terms and definitions	2
4 Symbol of grade	2
5 Manufacturing method	2
6 Chemical composition	3
7 Shape, dimensions, and dimensional tolerances	3
7.1 Standard dimensions	3
7.2 Dimensional tolerances	4
7.3 Straightness	5
8 Appearance	6
8.1 Appearance	6
8.2 Permissible depth of surface discontinuities and limit of removal	6
9 Total decarburized depth	7
10 Hardness	8
11 Microstructure	9
12 Macrostructure	9
13 Non-metallic inclusion	9
14 Tests	10
14.1 Chemical analysis	10
14.2 Measurement of total decarburized depth	10
14.3 Hardness test	11
14.4 Microstructure examination	11
14.5 Macrostructure	11
14.6 Non-metallic inclusion test	11
15 Inspection	12
15.1 Inspection	12
15.2 Reinspection	12
16 Marking	12
17 Information to be supplied by the purchaser	13
18 Report	13

Annex JA (normative)	Non-metallic inclusion (chart diagram index)	14
Annex JB (informative)	Comparison table between JIS and corresponding International Standard	15

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 4805 : 2019**), which has been technically revised.

However, **JIS G 4805 : 2019** 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 20 April 2026.

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.

Blank

High carbon chromium bearing steels

Introduction

This Japanese Industrial Standard has been prepared based on ISO 683-17 : 2023, Edition 4, 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 the requirements for high carbon chromium bearing steels (hereafter referred to as steels) used for roller bearings.

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

ISO 683-17 : 2023 *Heat-treatable steels, alloy steels and free-cutting steels — Part 17: Ball and roller bearing 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 0553 *Steel — Macroscopic examination by etching*

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

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