

# JIS

JAPANESE  
INDUSTRIAL  
STANDARD

Translated and Published by  
Japanese Standards Association

---

JIS G 3138 : 2021

(JISF)

**Rolled steel bars for building structure**

---

ICS 77.140.60

Reference number : JIS G 3138 : 2021 (E)

PROTECTED BY COPYRIGHT

8 5

G 3138 : 2021

Date of Establishment: 1996-10-20

Date of Revision: 2021-02-22

Date of Public Notice in Official Gazette: 2021-02-22

Investigated by: Japanese Industrial Standards Committee

Standards Board for ISO area

Technical Committee on Metal and Inorganic Materials

---

JIS G 3138 : 2021, First English edition published in 2021-08

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
1	Scope .....	1
2	Normative references .....	1
3	Terms and definitions .....	1
4	Symbols of grade and applicable dimensions .....	2
5	Manufacturing method .....	2
6	Symbols of heat treatment .....	2
7	Chemical composition .....	3
8	Carbon equivalent or weld-crack sensitivity composition .....	3
9	Mechanical properties .....	4
9.1	Yield point or proof stress, tensile strength, yield ratio and elongation .....	4
9.2	Charpy absorbed energy .....	5
10	Shape, dimensions, mass and tolerances .....	6
11	Appearance .....	6
12	Tests .....	6
12.1	Chemical analysis .....	6
12.2	Mechanical tests .....	6
13	Inspection .....	8
14	Reinspection .....	8
15	Marking .....	8
16	Report .....	8

## Foreword

This Japanese Industrial Standard has been 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 The Japan Iron and Steel Federation (JISF) with a draft being attached, based on the provision of Article 12, paragraph (1) of the Industrial Standardization Act applied mutatis mutandis pursuant to the provision of Article 16 of the said Act. This edition replaces the previous edition (**JIS G 3138:2005**), which has been technically revised.

However, **JIS G 3138: 2005** 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 21 February 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 and the Japanese Industrial Standards Committee are not responsible for identifying any of such patent rights, published patent application or utility model rights.

## Rolled steel bars for building structure

### 1 Scope

This Japanese Industrial Standard specifies requirements for the hot-rolled steel bars (hereafter referred to as steel bars) mainly used for structural members of buildings.

### 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 0416 *Steel and steel products — Location and preparation of samples and test pieces for mechanical testing*
- JIS G 3191 *Dimensions, mass and permissible variations of hot rolled steel bars and bar in coil*
- JIS Z 2241 *Metallic materials — Tensile testing — Method of test at room temperature*
- JIS Z 2242 *Method for Charpy pendulum impact test of metallic materials*

### 3 Terms and definitions

For the purpose of this Standard, the following terms and definitions, and those given in **JIS G 0201**, **JIS G 0202** and **JIS G 0203** apply.

#### 3.1

##### steel bar

steel product manufactured by hot-rolling steel into a bar

Note to entry 1 Steel bars are manufactured with a round (3.2), square (3.3) or hexagonal (3.4) cross-section.

Note to entry 2 Steel bars include bars in coil (3.5).

#### 3.2