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**Carbon steel tubes for machine structure**

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## 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 3445 : 2021**), which has been technically revised.

However, **JIS G 3445 : 2021** 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.

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# Carbon steel tubes for machine structure

## 1. Scope

This Japanese Industrial Standard specifies requirements for carbon steel tubes (hereafter referred to as tubes) used for machinery, automobiles, bicycles, furniture, appliances and other machine parts.

## 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 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 0416 *Steel and steel products — Location and preparation of samples and test pieces for mechanical testing*
- JIS G 3302 *Hot-dip zinc-coated steel sheet and strip*
- JIS G 3313 *Electrolytic zinc-coated steel sheet and strip*
- JIS G 3314 *Hot-dip aluminium-coated steel sheet and strip*
- JIS G 3317 *Hot-dip zinc-5 % aluminium alloy-coated steel sheet and strip*
- JIS G 3321 *Hot-dip 55 % aluminium-zinc alloy-coated steel sheet and strip*
- JIS G 3323 *Hot-dip zinc-aluminium-magnesium alloy-coated steel sheet and strip*
- JIS Z 2241 *Metallic materials — Tensile testing — Method of test at room temperature*
- JIS Z 8401 *Rounding of numbers*

## 3 Terms and definitions

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

## 4 Symbol of grade

Tubes are classified into 22 grades, and the symbols of grade and symbols for manufacturing method shall be as given in Table 1.