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**Steel tubes for machine structure with
specified hardenability bands**

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Foreword

This translation has been made based on the original Japanese Industrial Standard established by the Minister of Economy, Trade and Industry through deliberations at the Japanese Industrial Standards Committee according to the proposal for establishment of Japanese Industrial Standard submitted by The Japan Iron and Steel Federation (JISF) with the draft being attached, based on the provision of Article 12 Clause 1 of the Industrial Standardization Law.

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Steel tubes for machine structure with specified hardenability bands

Introduction

The increasing demand for steel tubes made of steels specified in **JIS G 4052** led to the need for establishment of Japanese Industrial Standard exclusively intended for steel tubes. In order to respond to such market needs, this Standard has been established based on the chemical composition specified in **JIS G 4052**.

In addition to the specification items in the main body, the examples of test to be applied by the agreement between the purchaser and the manufacturer are given in Annex A.

1 Scope

This Standard specifies steel tubes for machine structure with specified hardenability bands used mainly for machine parts (hereafter referred to as "tubes").

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 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 0551 *Steels — Micrographic determination of the apparent grain size*
- JIS G 0561 *Method of hardenability test for steel (End quenching method)*
- JIS Z 8401 *Guide to the rounding of numbers*

3 Grade and designation

The tubes shall be classified into 24 grades, and the designation of grade and symbol of manufacturing method thereof shall be as given in Table 1.

NOTE : Designation of grade in Table 1 is expressed by suffixing TK to the designation of grade given in **JIS G 4052**.