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☞ JIS G 3123 : 2004
(JISF)

**Cold finished carbon and
alloy steel bars**

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Foreword

This translation has been made based on the original Japanese Industrial Standard 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 the draft being attached, based on the provision of Article 12 Clause 1 of the Industrial Standardization Law applicable to the case of revision by the provision of Article 14. Consequently **JIS G 3123 : 1987** is replaced with this Standard.

This Standard has been made based on **ISO 683-18 : 1996** *Heat-treatable steels, alloy steels and free-cutting steels—Part 18 : Bright products of unalloyed and low alloy steels* for the purpose of making it easier to compare this Standard with International Standard; to prepare Japanese Industrial Standard conforming with International Standard; and to propose a draft of International Standard which is based on Japanese Industrial Standard.

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In the event of any doubts arising as to the contents,
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Cold finished carbon and alloy steel bars

Introduction This Japanese Industrial Standard has been prepared based on **ISO 683-18 : 1996** *Heat-treatable steels, alloy steels and free-cutting steels—Part 18 : Bright products of unalloyed and low alloy steels* published in 1996 as the second edition with modifying some technical contents.

Portions sidelined or underlined with dots are the modified items of original International Standard. Comparison table is given in annex 1 (informative) with its explanations.

1 Scope This Standard specifies cold finished carbon and alloy steel bars (hereafter referred to as “cold finished steel bars”) of round, hexagon, square and flat shapes of section to be used for machine structure and various machine parts.

Remarks : The International Standard corresponding to this Standard is as follows.

In addition, symbols which denote the degree of correspondence in the contents are IDT (identical), MOD (modified), and NEQ (not equivalent) according to **ISO/IEC Guide 21**.

ISO 683-18 : 1996 *Heat-treatable steels alloy steels and free-cutting steels—Part 18 : Bright products of unalloyed and low alloy steels* (MOD)

2 Normative references The standards listed in attached table 1 contain provisions which, through reference in this Standard, constitute provisions of this Standard. The most recent editions of the standards (including amendments) shall be applied.

3 Classification and symbol The classification and symbol of cold finished steel bars shall be as shown in table 1 with combination of the material applied, method to form, method of heat treatment and tolerances on dimensions.

Table 1 Classification and symbol

Type	Material (symbol)	Method of forming (symbol)	Method of heat treatment (symbol)	Tolerances on dimension (symbol)	(Information) Classification ⁽³⁾ (symbol)
Cold finished carbon steel bars	Steel materials and their symbols ⁽¹⁾ specified in the following standards are applied. JIS G 3108 JIS G 4051 JIS G 4804	Cold (D) drawing Grinding (G) Cutting (T)	Normalizing (N) Quenching and tempering (Q) Annealing (A) Spheroidizing (AS)	Tolerance grade ⁽²⁾ specified in table 6.	SGD3-D9 SGD400-T12 SGD290-D9 S45C-DQG7 S35C-DAS10 SNC836-AT12 and so on
Cold finished alloy steel bars	Steel materials and their symbols ⁽¹⁾ specified in the following standards are applied. JIS G 4052 JIS G 4053 JIS G 4202				

Notes ⁽¹⁾ The symbols of **SGDA** and **SGDB**, which guarantee the mechanical properties, of cold finished steel bars cold drawn from the materials specified in **JIS G 3108** shall be **SGD290-D** and **SGD400-D** respectively (see table 2).

⁽²⁾ Tolerance on dimensions shall be expressed by real part of tolerance grade.
Example: 11 for IT11

⁽³⁾ Examples of symbol indicating classification are explained in note (7) of clause 10.

4 Manufacture The cold finished steel bars shall be manufactured of the materials specified in table 1 of clause 3 by cold drawing, grinding, cutting or their combination. Heat treatment may be made, when required.

5 Mechanical properties

5.1 Mechanical properties of cold finished carbon steel bars Mechanical properties of cold finished carbon steel bars shall be in accordance with the agreement between the manufacturer and the purchaser. Further, mechanical properties of cold finished steel bars produced without cold draw nor heat treatment using the cold finished carbon steel bar material shall be in accordance with the specification of material before working. However, round and hexagon cold finished steel bars of **SGD290-D** and **SGD400-D** of certificating the mechanical properties within the cold finished steel bars produced with cold draw using the material specified in **JIS G 3108** shall be tested by clause 8 and the mechanical properties shall satisfy table 2.