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Conformity assessment — Conformity  
assessment for Japanese Industrial  
Standards — Guidance on a third-party  
certification system for steel products

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## Foreword

This Japanese Industrial Standard has been revised by the Minister of Economy, Trade and Industry, through deliberations at the Japanese Industrial Standards Committee in accordance with the Industrial Standardization Act. This edition replaces the previous edition (**JIS Q 1013** : 2009), which has been technically revised.

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# Conformity assessment — Conformity assessment for Japanese Industrial Standards — Guidance on a third-party certification system for steel products

## 1 Scope

This Japanese Industrial Standard specifies the requirements with regard to the certification procedure, the quality management system of a product, etc. peculiar to Japanese Industrial Standard (hereafter referred to as **JIS**) concerning the area of steel products. The structure of this Standard is the same as that of the general guidance on a third-party certification system for products specified in **JIS Q 1001** (hereafter referred to as general guidance on certification system), and the matters to be special cases among the requirements specified in the general guidance on certification system are specified in this Standard based on characteristics of the industrial and mineral products concerned.

The **JISs** concerning the area of steel products which is to be the object of this Standard are given in Table 1.

In addition, this Standard shall be used in conjunction with **JIS Q 1001**.

## 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 0415 *Steel and steel products — Inspection documents*

JIS Q 1001 *Conformity assessment — Conformity assessment for Japanese Industrial Standards — General guidance on a third-party certification system for products and these processing technology*

JIS Q 17025 *General requirements for the competence of testing and calibration laboratories*

## 3 Terms and definitions

For the purpose of this Standard, the terms and definitions given in the general guidance on certification system apply.

## 4 Condition of certification

The condition specified in the general guidance on certification system apply.

## 5 Application for certification

### 5.1 Object standards

The industrial and mineral products which are to be the object shall be the steel products specified in Table 1, and the object standards shall be **JISs** in Table 1.

## 5.2 Division of certification

The division of certification shall be as given in Table 1.

The applicant shall specify the range of certification (division of steel products, number of **JIS**, type of steels, shape of steel products, etc.) by division of certification based on Table 1 and Table 2.

## 5.3 Application

The registered certification body shall request the applicant to submit data described in **b)** together with the application which includes the matters described in the following **a)**.

- a) Matters such as the division of steel products, number of **JIS**, type of steels and shape of steel products by division of certification based on Table 1 and Table 2
- b) The following data necessary for the registered certification body to judge the status of quality management system
  - 1) In the case of not lot certification
    - Data on the production quantity of each type of steels to be applied in the division of certification
    - Sufficient inspection records for one or more representative types of steels selected by the registered certification body for each division of steel product shape, etc., taking into account data on the production quantity
  - 2) In the case of lot certification
    - Specific number or quantity of products actually manufactured, identification number such as product number, dimensions and quantity

## 6 Initial factory audit and initial product test

### 6.1 General

In accordance with the general guidance on certification system.

### 6.2 Initial factory audit

#### 6.2.1 Method of initial factory audit

The applicant shall submit to the registered certification body the documents which describe the management of products, raw materials, production process and equipment based on Annex A. The registered certification body shall confirm that the manufacture and test or inspection are in execution appropriately based on the quality management system specified in Annex A submitted from the applicant.

The registered certification body shall examine that the factory or business establishment is in execution of manufacture or test in possession of at least an important facility or quasi-important facility described in Table 1. In the case where the factory

or business establishment is in execution of manufacture or test in possession of a quasi-important facility in Table 1 only, the registered certification body shall examine that the factory or business establishment is in execution of manufacture or test under the quality management system based on Annex A to the subcontract factory which is in execution of manufacture or test in possession of an important facility.

In the case where the lot certification relating to the steel products actually manufactured is applied for, the applicant shall submit to the registered certification body the document which describes the management of products, raw materials, manufacturing process and equipment based on Annex A as well as the inspection certificate on the steel products (Inspection certificate 3.1 specified in 5.1 or Inspection certificate 3.2 specified in 5.2 of JIS G 0415).

### 6.2.2 Other

In accordance with the general guidance on certification system.

## 6.3 Initial product test

### 6.3.1 Sampling

When more than one JIS is involved in one division of steel products in Table 1, the registered certification body shall take out the number or quantity of samples necessary for product test for each division of steel products in Table 1 and each shape division of steel products in Table 2, from the steel type specified in one JIS representative of the division. Whenever the needs arise, the registered certification body may take out the necessary number or quantity of samples from other JISs included in the same division of steel products in addition to those sampled out.

When one JIS is involved in one division of steel products in Table 1, the registered certification body shall take out the number or quantity of samples necessary for product test from the steel type specified in the JIS.

### 6.3.2 Implementation of initial product test

The initial product test shall be carried out in accordance with the general guidance on certification system. Heat analysis, hydrostatic test and non-destructive test, which are the process inspection incorporated as a product inspection in the manufacturing process, may be carried out in accordance with either one of the following.

- a) In the case of the test performed by a testing personnel of the applicant using inspection equipment of the applicant in the presence of the registered certification body

The test may be performed on a product of the same JIS number as that of the product sampled for a mechanical test, or another product (sample for analysis in the case of heat analysis) separately and randomly sampled from products of other JISs included in the same division of steel products when the registered certification body judges it appropriate.

- b) In the case of the validation by the registered certification body of the results of all of the following for the test performed by testing personnel of the applicant using

the inspection equipment of the applicant

- The registered certification body confirms that the manufacturing method, testing method, test equipment and test record related to the industrial and mineral products concerned are specified in the company standard and are in execution on site.
- In line with **6.3 of JIS Q 17025**, the applicant shall ensure that environmental conditions do not invalidate the results or adversely affect the required quality of any measurement. The applicant shall document the technical requirements for accommodation and environmental conditions that can affect the results of tests.
- The registered certification body shall validate the product test methods to fit the data of test results in line with **7.2.2.1 of JIS Q 17025**.
- In line with **7.2.2.3 of JIS Q 17025**, the range and accuracy of the values obtainable from tests shall conform to **JISs**, etc. to be certified in the evaluation for the intended use.
- In line with **7.8.1 of JIS Q 17025**, the results of each test or series of tests carried out by the applicant shall be reported accurately, clearly, unambiguously and objectively, and in accordance with the specific instructions, if any, for the test methods.

### **6.3.3 Utilization of testing laboratory, etc. other than registered certification body**

In accordance with the general guidance on certification system.

## **7 Assessment**

In accordance with the general guidance on certification system.

## **8 Decision of certification**

In accordance with the general guidance on certification system.

## **9 Certification agreement**

In accordance with the general guidance on certification system.

## **10 Issuance of certificate document**

In accordance with the general guidance on certification system.

## **11 Addition or alteration of certification**

In accordance with the general guidance on certification system.

## **12 Certification maintenance surveillance**

### **12.1 Periodical certification maintenance surveillance**

In accordance with the general guidance on certification system.

### **12.1.1 Certification maintenance factory audit**

The registered certification body shall carry out the certification maintenance factory audit based on the initial factory audit in 6.2. When recognized as unnecessary by the registered certification body, however, part of items in the initial factory audit may be omitted.

### **12.1.2 Certification maintenance product test**

The registered certification body shall carry out the certification maintenance product test based on the initial product test in 6.3. When recognized as unnecessary by the registered certification body, however, part of items in the initial product test may be omitted.

## **12.2 Temporal certification maintenance surveillance**

In accordance with the general guidance on certification system.

## **13 Marking of JIS mark, etc. and supplementary information**

### **13.1 Marking of JIS mark, etc.**

In accordance with the general guidance on certification system.

### **13.2 Marking of supplementary information**

In accordance with the general guidance on certification system.

### **13.3 Method of marking**

In accordance with the general guidance on certification system.

The marking may be made on the surface of coated oil or paint applied on the product surface with little impact on its quality or the surface of packaging in accordance with the agreement between the purchaser and the manufacturer. When specified in respective relevant JISs, however, the marking shall be in accordance with the specification.

## **14 Confidentiality concerning certification**

In accordance with the general guidance on certification system.

## **15 Action concerning illegal marking, etc.**

In accordance with the general guidance on certification system.

## **16 Cancellation of certification**

In accordance with the general guidance on certification system.

## **17 Action taken when JIS is revised**

In accordance with the general guidance on certification system.

**Table 1 Division of certification, range of certification, and important facility and quasi-important facility of factory or business establishment**

| Division of certification             | Range of certification                         |                                                                                                |                                                    | Important facility and quasi-important facility of factory or business establishment |                                                                                             |
|---------------------------------------|------------------------------------------------|------------------------------------------------------------------------------------------------|----------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
|                                       | Division of steel product                      | Number of JIS                                                                                  | Type of steel                                      | Important facility                                                                   | Quasi-important facility                                                                    |
| 1 Rolled steel for structural purpose | 1 General material                             | JIS A 5526<br>JIS G 3101                                                                       | Type specified in JIS described in the left column | Hot rolling equipment or forging equipment                                           | 1 Melting and casting equipment and<br>2 Heat treatment equipment or conditioning equipment |
|                                       | 2 For welding structural purpose               | JIS G 3103<br>JIS G 3106<br>JIS G 3114<br>JIS G 3125<br>JIS G 3136<br>JIS G 3138<br>JIS G 3140 |                                                    |                                                                                      |                                                                                             |
|                                       | 3 Carbon steel for machine structural purpose  | JIS G 4051                                                                                     |                                                    |                                                                                      |                                                                                             |
|                                       | 4 Alloy steel for machine structural purpose   | JIS G 4052<br>JIS G 4053                                                                       |                                                    |                                                                                      |                                                                                             |
|                                       | 5 Sheet piling                                 | JIS A 5523<br>JIS A 5528                                                                       |                                                    |                                                                                      |                                                                                             |
|                                       | 6 Light gauge section                          | JIS G 3350                                                                                     |                                                    | Forming step equipment                                                               | None                                                                                        |
|                                       |                                                |                                                                                                |                                                    |                                                                                      |                                                                                             |
| 2 Steel sheet for general processing  | 1 Hot-rolled mild steel plate, sheet and strip | JIS G 3113<br>JIS G 3131<br>JIS G 3132                                                         |                                                    | Hot rolling equipment                                                                | 1 Melting and casting equipment and<br>2 Heat treatment equipment or conditioning equipment |
|                                       | 2 Cold-reduced carbon steel sheet and strip    | JIS G 3141                                                                                     |                                                    | Cold rolling equipment                                                               | 1 Hot rolling equipment and<br>2 Annealing equipment                                        |
|                                       | 3 Galvanized steel sheet                       | JIS G 3302<br>JIS G 3314<br>JIS G 3317<br>JIS G 3321<br>JIS G 3323                             |                                                    | Galvanizing process equipment                                                        | None                                                                                        |
|                                       | 4 Galvanized colour steel sheet                | JIS G 3312<br>JIS G 3318<br>JIS G 3322                                                         |                                                    | Painting and backing process equipment                                               | None                                                                                        |
|                                       | 5 Cold rolled special steel strip              | JIS G 3311                                                                                     |                                                    | Cold rolling equipment                                                               | 1 Hot rolling equipment and<br>2 Annealing equipment or conditioning equipment              |

Table 1 (continued)

| Division of certification | Range of certification                                   |                                                                                                                                                                                       |                                                    | Important facility and quasi-important facility of factory or business establishment                                                            |                                                                                                                                |
|---------------------------|----------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|
|                           | Division of steel product                                | Number of JIS                                                                                                                                                                         | Type of steel                                      | Important facility                                                                                                                              | Quasi-important facility                                                                                                       |
| 3 Steel tube              | 1 Steel tube for foundation                              | <b>JIS A 5525</b><br><b>JIS A 5530</b>                                                                                                                                                | Type specified in JIS described in the left column | Forming/welding equipment or tublizing/sizing equipment                                                                                         | None                                                                                                                           |
|                           | 2 Steel tube for ordinary piping (galvanized steel tube) | <b>JIS G 3452</b> (galvanized steel tube)<br><b>JIS G 3454</b> (galvanized steel tube)                                                                                                |                                                    | In the case of seamless tubes : Piercing and rolling equipment, extrusion pressing equipment, piercing equipment, punching or forging equipment | In the case of seamless tubes :<br>1 Melting and casting equipment and<br>2 Heat treatment equipment or conditioning equipment |
|                           | 3 Steel tube for ordinary piping                         | <b>JIS G 3452</b> (black steel pipe)<br><b>JIS G 3454</b> (black steel pipe)<br><b>JIS G 3455</b><br><b>JIS G 3456</b><br><b>JIS G 3457</b><br><b>JIS G 3458</b><br><b>JIS G 3460</b> |                                                    | In the case of welded tubes : Forming/welding equipment or tublizing/sizing equipment                                                           | In the case of welded tubes :<br>None                                                                                          |
|                           | 4 Steel tube for heat exchanger                          | <b>JIS G 3461</b><br><b>JIS G 3462</b><br><b>JIS G 3464</b>                                                                                                                           |                                                    |                                                                                                                                                 |                                                                                                                                |
|                           | 5 Carbon steel tube for structural purpose               | <b>JIS G 3441</b><br><b>JIS G 3444</b><br><b>JIS G 3445</b><br><b>JIS G 3466</b><br><b>JIS G 3474</b><br><b>JIS G 3475</b><br><b>JIS G 3478</b><br><b>JIS G 3479</b>                  |                                                    |                                                                                                                                                 |                                                                                                                                |
|                           | 6 Stainless steel tube                                   | <b>JIS G 3446</b><br><b>JIS G 3448</b><br><b>JIS G 3459</b><br><b>JIS G 3463</b>                                                                                                      |                                                    |                                                                                                                                                 |                                                                                                                                |
|                           |                                                          |                                                                                                                                                                                       |                                                    |                                                                                                                                                 |                                                                                                                                |
| 4 Wire rod and bar        | 1 Wire rod                                               | <b>JIS G 3505</b><br><b>JIS G 3506</b>                                                                                                                                                |                                                    | Hot rolling equipment                                                                                                                           | 1 Melting and casting equipment and<br>2 Conditioning equipment                                                                |
|                           | 2 Piano wire rod/wire rod for bridge cable               | <b>JIS G 3502</b><br><b>JIS G 3504</b>                                                                                                                                                |                                                    |                                                                                                                                                 |                                                                                                                                |
|                           | 3 Reinforcement                                          | <b>JIS G 3112</b>                                                                                                                                                                     |                                                    |                                                                                                                                                 |                                                                                                                                |
|                           | 4 Free-cutting steel                                     | <b>JIS G 4804</b>                                                                                                                                                                     |                                                    | Hot rolling equipment or forging equipment                                                                                                      | 1 Melting and casting equipment and<br>2 Conditioning equipment                                                                |
|                           | 5 Cold finished steel bar                                | <b>JIS G 3123</b>                                                                                                                                                                     |                                                    | Cold drawing equipment                                                                                                                          | None                                                                                                                           |

**Table 1 (concluded)**

| Division of certification      | Range of certification                          |               |               | Important facility and quasi-important facility of factory or business establishment |                                                                                             |
|--------------------------------|-------------------------------------------------|---------------|---------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
|                                | Division of steel product                       | Number of JIS | Type of steel | Important facility                                                                   | Quasi-important facility                                                                    |
| 4 Wire rod and bar (concluded) | 6 Rerolled steel bar for concrete reinforcement | JIS G 3117    |               | Hot rolling equipment                                                                | None                                                                                        |
| 5 Special steel                | 1 Spring steel                                  | JIS G 4801    |               | Hot rolling equipment or forging equipment                                           | 1 Melting and casting equipment and<br>2 Heat treatment equipment or conditioning equipment |

**Table 2 Division of shape, etc. of steel products**

| Division of shape, etc. of steel product |
|------------------------------------------|
| a) Steel plate                           |
| b) Hot-rolled sheet/plate and strip      |
| c) Cold-rolled sheet/plate and strip     |
| d) Section, sheet piling                 |
| e) Flat bar                              |
| f) Wire rod and bar                      |
| g) Seamless steel tube                   |
| h) Electric resistance welded steel tube |
| i) Butt-welded steel tube                |
| j) Arc-welded steel tube                 |
| k) Cold finished steel tube              |
| l) Laser-welded steel tube               |

## **Annex A (normative)**

### **Quality management system to be confirmed in the initial factory audit**

The following quality management system shall be specified concretely in the company standard of which the content shall satisfy the following matters and shall be carried out appropriately. An example of a quality management system to be confirmed in the initial factory audit by each division of certification is given in Annex B.

#### **A.1 Product management**

Matters to be specified in the product management shall be as follows.

- a) Quality characteristics specified in the relevant **JIS**
- b) Product inspection method necessary for assuring quality characteristics
- c) Product storing method necessary for storing products under appropriate conditions

#### **A.2 Raw material management**

Matters to be specified in the raw material management shall be as follows.

- a) Name of raw material to be managed
- b) Required quality characteristics of raw material
- c) Acceptance inspection method of raw material
- d) Raw material storing method

#### **A.3 Manufacturing process management**

Matters to be specified in the manufacturing process management shall be as follows.

- a) Manufacturing process to be managed
- b) Management item and quality characteristics of manufacturing process
- c) Management method and inspection method of quality characteristics

#### **A.4 Equipment management**

Matters to be specified in the equipment management shall be as follows.

- a) Manufacturing equipment and inspection equipment to be managed
- b) Management method of each equipment (check point, check item, check cycle, check method, criteria, process after checking, equipment register, etc.)

### A.5 Complaints handling

The following matters shall be specified concretely in the company standard and performed appropriately.

It is recommended to use **JIS Q 10002** as reference.

- a) Channels for handling complaints and the division of roles played by each channel constituent department
- b) Complaints handling method
- c) Cause analysis of the complaints and process for preventive measures
- d) Format of recording sheets and storing method thereof

## **Annex B (informative)**

### **Example of quality management system to be confirmed in the initial factory audit**

This annex is to show an example of a quality management system to be confirmed in the initial factory audit specified in Annex A (in particular, product management, raw material management, manufacturing process management and equipment management) by division of certification. This annex does not constitute the provisions of this Standard.

#### **B.1 Product management**

The matters related to the quality, inspection and storing of products are shown in Table B.1 to Table B.5. Each item is applied in accordance with the respective provisions of product standards.

NOTE Sign ○ in the table shows a main corresponding relationship.

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**Table B.1 Product management of rolled steel for structure**

| Matter for product quality                                                                                            | Division of steel product          |                                   |                                             |                                            |              |                     | Product inspection method                                                                                                                                                                                                                                                                          | Product storing method                                                                                                                                                                                                                      |
|-----------------------------------------------------------------------------------------------------------------------|------------------------------------|-----------------------------------|---------------------------------------------|--------------------------------------------|--------------|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                       | Rolled steel for general structure | Rolled steel for welded structure | Carbon steel for machine structural purpose | Alloy steel for machine structural purpose | Sheet piling | Light gauge section |                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                             |
| 1 Classification and symbol                                                                                           | ○                                  | ○                                 | ○                                           | ○                                          | ○            | ○                   | Inspection methods necessary for assuring the qualities in the left column shall be specified concretely.<br>Tests of chemical composition, carbon equivalent or chemical composition on weld cracking sensitivity, mechanical properties, steel quality and ultrasonic testing may be outsourced. | Product storing methods shall be specified concretely in order to store products under appropriate conditions.<br>The type and distinction between conforming and non-conforming articles shall be identified in the product storing place. |
| 2 Chemical composition                                                                                                | ○                                  | ○                                 | ○                                           | ○                                          | ○            | ○                   |                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                             |
| 3 Carbon equivalent or chemical composition on weld cracking sensitivity                                              |                                    | ○                                 |                                             |                                            | ○            |                     |                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                             |
| 4 Mechanical properties                                                                                               | ○                                  | ○                                 |                                             |                                            | ○            | ○                   |                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                             |
| 5 Ultrasonic testing                                                                                                  |                                    | ○                                 |                                             |                                            |              |                     |                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                             |
| 6 Steel quality                                                                                                       |                                    |                                   |                                             | ○                                          |              |                     |                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                             |
| 7 Shape, dimensions, mass and tolerances                                                                              | ○                                  | ○                                 | ○                                           | ○                                          | ○            | ○                   |                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                             |
| 8 Appearance                                                                                                          | ○                                  | ○                                 | ○                                           | ○                                          | ○            | ○                   |                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                             |
| 9 Heat treatment                                                                                                      |                                    | ○                                 |                                             |                                            |              |                     |                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                             |
| 10 Marking                                                                                                            | ○                                  | ○                                 | ○                                           | ○                                          | ○            | ○                   |                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                             |
| 11 Report                                                                                                             | ○                                  | ○                                 | ○                                           | ○                                          | ○            | ○                   |                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                             |
| 12 Annex (normative) Structural steels                                                                                |                                    | ○                                 |                                             |                                            |              |                     |                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                             |
| 13 Carbon equivalent of thermo-mechanically controlled steel plate                                                    |                                    | ○                                 |                                             |                                            |              |                     |                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                             |
| 14 Chemical composition on weld cracking sensitivity of thermo-mechanically controlled steel plate                    |                                    | ○                                 |                                             |                                            |              |                     |                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                             |
| Product inspection may be carried out as either the final inspection or process inspection (intermediate inspection). |                                    |                                   |                                             |                                            |              |                     |                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                             |

**Table B.2 Product management of steel sheet for general processing**

| Matter for product quality                                                                                            | Division of steel product                    |                                           |                        |                               |                                 | Product inspection method                                                                                                                                                                                                                                                                                                                                                                            | Product storing method                                                                                                                                                                                                                                 |
|-----------------------------------------------------------------------------------------------------------------------|----------------------------------------------|-------------------------------------------|------------------------|-------------------------------|---------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                       | Hot-rolled mild steel plate, sheet and strip | Cold-reduced carbon steel sheet and strip | Galvanized steel sheet | Galvanized colour steel sheet | Cold rolled special steel strip |                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                        |
| 1 Classification and symbol                                                                                           | ○                                            | ○                                         | ○                      | ○                             | ○                               | <p>Inspection methods necessary for assuring the qualities in the left column shall be specified concretely.</p> <p>Determination of coating surface finishing shall be specified concretely by using boundary samples, etc.</p> <p>Tests of chemical composition, coating mass, durability of coating, physical property of coating, mechanical properties and steel quality may be outsourced.</p> | <p>Product storing methods shall be specified concretely in order to store products under appropriate conditions.</p> <p>The type and distinction between conforming and non-conforming articles shall be identified in the product storing place.</p> |
| 2 Chemical composition                                                                                                | ○                                            | ○                                         | ○                      | ○                             | ○                               |                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                        |
| 3 Type of coating                                                                                                     |                                              |                                           | ○                      |                               |                                 |                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                        |
| 4 Coating surface finishing                                                                                           |                                              |                                           | ○                      |                               |                                 |                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                        |
| 5 Coating mass                                                                                                        |                                              |                                           | ○                      |                               |                                 |                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                        |
| 6 Chemical treatment                                                                                                  |                                              |                                           | ○                      |                               |                                 |                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                        |
| 7 Surface protective treatment                                                                                        |                                              |                                           |                        | ○                             |                                 |                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                        |
| 8 Durability of coating                                                                                               |                                              |                                           |                        | ○                             |                                 |                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                        |
| 9 Physical property of coating                                                                                        |                                              |                                           |                        | ○                             |                                 |                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                        |
| 10 Mechanical properties                                                                                              | ○                                            | ○                                         | ○                      |                               | ○                               |                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                        |
| 11 Steel quality                                                                                                      |                                              |                                           |                        |                               | ○                               |                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                        |
| 12 Shape, dimensions, mass and tolerances                                                                             | ○                                            | ○                                         | ○                      | ○                             | ○                               |                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                        |
| 13 Oiling                                                                                                             | ○                                            | ○                                         | ○                      |                               |                                 |                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                        |
| 14 Appearance                                                                                                         | ○                                            | ○                                         | ○                      | ○                             | ○                               |                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                        |
| 15 Marking                                                                                                            | ○                                            | ○                                         | ○                      | ○                             | ○                               |                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                        |
| 16 Matters to be confirmed at the time of order                                                                       | ○                                            | ○                                         | ○                      | ○                             |                                 |                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                        |
| 17 Report                                                                                                             | ○                                            | ○                                         | ○                      | ○                             | ○                               |                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                        |
| 18 Annex (normative)<br>Coating mass of sheet and coil for roofing and architectural siding                           |                                              |                                           | ○                      |                               |                                 |                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                        |
| 19 Annex (normative)<br>Coating mass and standard dimension for corrugated sheet                                      |                                              |                                           | ○                      |                               |                                 |                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                        |
| Product inspection may be carried out as either the final inspection or process inspection (intermediate inspection). |                                              |                                           |                        |                               |                                 |                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                        |

Table B.3 Product management of steel tube

| Matter for product quality                                                       | Division of steel product |                                                        |                                |                               |                                          |                      | Product inspection method                                                                                                                                                                                                                                                                                                                                                                        | Product storing method                                                                                                                                                                                                                                 |
|----------------------------------------------------------------------------------|---------------------------|--------------------------------------------------------|--------------------------------|-------------------------------|------------------------------------------|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                  | Steel tube for foundation | Steel tube for ordinary piping (galvanized steel tube) | Steel tube for ordinary piping | Steel tube for heat exchanger | Carbon steel tube for structural purpose | Stainless steel tube |                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                        |
| 1 Classification and symbol                                                      | ○                         | ○                                                      | ○                              | ○                             | ○                                        | ○                    | <p>Inspection methods necessary for assuring the qualities in the left column shall be specified concretely.</p> <p>Tests of chemical composition, mechanical properties, uniformity of zinc coating, hydrostatic test characteristics, non-destructive inspection characteristics, leakage resistance, pressure tightness, leachability and factory circumferential weld may be outsourced.</p> | <p>Product storing methods shall be specified concretely in order to store products under appropriate conditions.</p> <p>The type and distinction between conforming and non-conforming articles shall be identified in the product storing place.</p> |
| 2 Construction of pile and nominal designation of each part                      | ○                         |                                                        |                                |                               |                                          |                      |                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                        |
| 3 Chemical composition                                                           | ○                         | ○                                                      | ○                              | ○                             | ○                                        | ○                    |                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                        |
| 4 Mechanical properties                                                          |                           |                                                        |                                |                               |                                          |                      |                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                        |
| a) Tensile strength                                                              | ○                         | ○                                                      | ○                              | ○                             | ○                                        | ○                    |                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                        |
| b) Yield point or proof strength                                                 | ○                         | ○                                                      | ○                              | ○                             | ○                                        | ○                    |                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                        |
| c) Elongation                                                                    | ○                         | ○                                                      | ○                              | ○                             | ○                                        | ○                    |                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                        |
| d) Flattening resistance                                                         | ○                         | ○                                                      | ○                              | ○                             | ○                                        | ○                    |                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                        |
| e) Flaring resistance                                                            |                           |                                                        |                                | ○                             |                                          | ○                    |                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                        |
| f) Bendability                                                                   |                           | ○                                                      | ○                              |                               | ○                                        | ○                    |                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                        |
| g) Guided-bendability of weld                                                    |                           |                                                        |                                |                               |                                          | ○                    |                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                        |
| h) Reverse flattening resistance                                                 |                           |                                                        |                                | ○                             |                                          | ○                    |                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                        |
| i) Absorbed energy                                                               |                           | ○                                                      | ○                              | ○                             |                                          |                      |                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                        |
| j) Crystal grain size                                                            |                           |                                                        |                                |                               |                                          | ○                    |                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                        |
| k) Tensile strength of weld                                                      | ○                         | ○                                                      | ○                              |                               | ○                                        |                      |                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                        |
| 5 Uniformity of zinc coating                                                     |                           | ○                                                      |                                |                               |                                          |                      |                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                        |
| 6 Hydrostatic test characteristics or non-destructive inspection characteristics |                           | ○                                                      | ○                              | ○                             |                                          | ○                    |                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                        |
| 7 Leakage resistance                                                             |                           |                                                        |                                |                               |                                          | ○                    |                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                        |
| 8 Pressure tightness                                                             |                           |                                                        |                                |                               |                                          | ○                    |                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                        |
| 9 Leachability                                                                   |                           |                                                        |                                |                               |                                          | ○                    |                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                        |
| 10 Factory circumferential weld                                                  | ○                         |                                                        |                                |                               |                                          |                      |                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                        |

Table B.3 (concluded)

| Matter for product quality                                                                                            | Division of steel product |                                                        |                                |                               |                                          |                      | Product inspection method                                                       | Product storing method |
|-----------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------------------------------------------|--------------------------------|-------------------------------|------------------------------------------|----------------------|---------------------------------------------------------------------------------|------------------------|
|                                                                                                                       | Steel tube for foundation | Steel tube for ordinary piping (galvanized steel tube) | Steel tube for ordinary piping | Steel tube for heat exchanger | Carbon steel tube for structural purpose | Stainless steel tube |                                                                                 |                        |
| 11 Accessories, processing and paint/coating                                                                          | ○                         |                                                        |                                |                               |                                          |                      |                                                                                 |                        |
| 12 Shape, dimensions, mass and tolerances                                                                             | ○                         | ○                                                      | ○                              | ○                             | ○                                        | ○                    |                                                                                 |                        |
| 13 Appearance                                                                                                         | ○                         | ○                                                      | ○                              | ○                             | ○                                        | ○                    | It shall be specified concretely by using boundary samples or by other methods. |                        |
| 14 Marking                                                                                                            | ○                         | ○                                                      | ○                              | ○                             | ○                                        | ○                    |                                                                                 |                        |
| 15 Report                                                                                                             | ○                         | ○                                                      | ○                              | ○                             | ○                                        | ○                    |                                                                                 |                        |
| 16 Special quality requirements                                                                                       |                           | ○                                                      | ○                              | ○                             |                                          | ○                    |                                                                                 |                        |
| 17 U-bend tube                                                                                                        |                           |                                                        |                                | ○                             |                                          | ○                    |                                                                                 |                        |
| Annex (normative)<br>Quality requirements for ribbed blank tube                                                       | ○                         |                                                        |                                |                               |                                          |                      |                                                                                 |                        |
| Product inspection may be carried out as either the final inspection or process inspection (intermediate inspection). |                           |                                                        |                                |                               |                                          |                      |                                                                                 |                        |

**Table B.4 Product management of steel wire rod and steel bar**

| Matter for product quality                                                                                            | Division of steel product |                                          |                       |                       |                         |                                               | Product inspection method                                                                                                                                                                                           | Product storing method                                                                                                                                                                                                                   |
|-----------------------------------------------------------------------------------------------------------------------|---------------------------|------------------------------------------|-----------------------|-----------------------|-------------------------|-----------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                       | Wire rod                  | Piano wire rod/wire rod for bridge cable | Reinforcement         | Free-cutting steel    | Cold finished steel bar | Rerolled steel bar for concrete reinforcement |                                                                                                                                                                                                                     |                                                                                                                                                                                                                                          |
| 1 Classification and symbol                                                                                           | <input type="radio"/>     | <input type="radio"/>                    | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>   | <input type="radio"/>                         | Inspection methods necessary for assuring the qualities in the left column shall be specified concretely. Tests of chemical composition, steel quality, mechanical properties and depth of flaws may be outsourced. | Product storing methods shall be specified concretely in order to store products under appropriate conditions. The type and distinction between conforming and non-conforming articles shall be identified in the product storing place. |
| 2 Chemical composition                                                                                                | <input type="radio"/>     | <input type="radio"/>                    | <input type="radio"/> | <input type="radio"/> |                         | <input type="radio"/>                         |                                                                                                                                                                                                                     |                                                                                                                                                                                                                                          |
| 3 Steel quality                                                                                                       | <input type="radio"/>     | <input type="radio"/>                    |                       |                       |                         |                                               |                                                                                                                                                                                                                     |                                                                                                                                                                                                                                          |
| 4 Mechanical properties                                                                                               |                           |                                          | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>   | <input type="radio"/>                         |                                                                                                                                                                                                                     |                                                                                                                                                                                                                                          |
| 5 Shape, dimensions, mass and tolerances                                                                              | <input type="radio"/>     | <input type="radio"/>                    | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>   | <input type="radio"/>                         |                                                                                                                                                                                                                     |                                                                                                                                                                                                                                          |
| 6 Depth of flaw                                                                                                       |                           | <input type="radio"/>                    |                       |                       |                         |                                               |                                                                                                                                                                                                                     |                                                                                                                                                                                                                                          |
| 7 Appearance                                                                                                          | <input type="radio"/>     | <input type="radio"/>                    | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>   | <input type="radio"/>                         | It shall be specified concretely by using boundary samples or by other methods.                                                                                                                                     |                                                                                                                                                                                                                                          |
| 8 Marking                                                                                                             | <input type="radio"/>     | <input type="radio"/>                    | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>   | <input type="radio"/>                         |                                                                                                                                                                                                                     |                                                                                                                                                                                                                                          |
| 9 Report                                                                                                              | <input type="radio"/>     | <input type="radio"/>                    | <input type="radio"/> | <input type="radio"/> |                         | <input type="radio"/>                         |                                                                                                                                                                                                                     |                                                                                                                                                                                                                                          |
| Annex (normative) Special quality requirements                                                                        | <input type="radio"/>     | <input type="radio"/>                    |                       |                       |                         |                                               |                                                                                                                                                                                                                     |                                                                                                                                                                                                                                          |
| 1 Chemical composition                                                                                                | <input type="radio"/>     | <input type="radio"/>                    |                       |                       |                         |                                               |                                                                                                                                                                                                                     |                                                                                                                                                                                                                                          |
| 2 Dimensions and tolerances                                                                                           | <input type="radio"/>     |                                          |                       |                       |                         |                                               |                                                                                                                                                                                                                     |                                                                                                                                                                                                                                          |
| Annex (normative) In-line patenting treatment                                                                         | <input type="radio"/>     | <input type="radio"/>                    |                       |                       |                         |                                               |                                                                                                                                                                                                                     |                                                                                                                                                                                                                                          |
| 1 Tensile strength and tolerances                                                                                     | <input type="radio"/>     | <input type="radio"/>                    |                       |                       |                         |                                               |                                                                                                                                                                                                                     |                                                                                                                                                                                                                                          |
| Product inspection may be carried out as either the final inspection or process inspection (intermediate inspection). |                           |                                          |                       |                       |                         |                                               |                                                                                                                                                                                                                     |                                                                                                                                                                                                                                          |

**Table B.5 Product management of special steel**

| Matter for product quality                                                                                            | Product inspection method                                                                                                                                                                          | Product storing method                                                                                                                                                                                                                                               |
|-----------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 Classification and symbol                                                                                           | Inspection methods<br>necessary for assuring the<br>qualities in the left column<br>shall be specified concretely.<br><br>Tests of chemical composition<br>and decarburising may be<br>outsourced. | Product storing methods<br>shall be specified concretely in<br>order to store products under<br>appropriate conditions.<br><br>The type and distinction<br>between conforming and<br>non-conforming articles shall<br>be identified in the product<br>storing place. |
| 2 Chemical composition                                                                                                |                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                      |
| 3 Appearance, shape,<br>dimensions and tolerances                                                                     |                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                      |
| 4 Decarburising                                                                                                       |                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                      |
| 5 Marking                                                                                                             |                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                      |
| 6 Report                                                                                                              |                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                      |
| Product inspection may be carried out as either the final inspection or process inspection (intermediate inspection). |                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                      |

**B.2 Raw material management**

The matters related to the quality, inspection and storing of raw materials are shown in Table B.6 to Table B.10. Each item is applied in accordance with the respective provisions of product standards.

NOTE Sign ○ in the table shows a main corresponding relationship.