



JAPANESE  
INDUSTRIAL  
STANDARD

Translated and Published by  
Japanese Standards Association

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**JIS B 0151** : 2001  
(SPE/JSA)

**Iron and steel pipe fittings—  
Vocabulary**

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**ICS** 01.040.23; 23.040.40

**Descriptors** : vocabulary, pipe fittings, steels

**Reference number** : JIS B 0151 : 2001 (E)

## Foreword

This translation has been made based on the original Japanese Industrial Standard revised by the Minister of Economy, Trade and Industry through deliberations at the Japanese Industrial Standards Committee, as the result of proposal for revision of Japanese Industrial Standard submitted by The Society of Piping Engineers of Japan (SPE)/the Japanese Standards Association (JSA) with the draft being attached, based on the provision of Article 12 Clause 1 of the Industrial Standardization Law applicable to the case of revision by the provision of Article 14. Consequently **JIS B 0151 : 1995** is replaced with this Standard.

Date of Establishment: 1973-01-01

Date of Revision: 2001-01-20

Date of Public Notice in Official Gazette: 2001-01-22

Investigated by: Japanese Industrial Standards Committee  
Divisional Council on Machine Elements

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JIS B 0151 : 2001, First English edition published in 2003-04

Translated and published by: Japanese Standards Association  
4-1-24, Akasaka, Minato-ku, Tokyo, 107-8440 JAPAN

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Printed in Japan

## Iron and steel pipe fittings—Vocabulary

**1 Scope** This Japanese Industrial Standard specifies terms and definitions relating to iron and steel fittings used for iron and steel piping to conduct a fluid such as steam, water, gas and air.

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

JIS B 2301 *Screwed type malleable cast iron pipe fittings*

JIS B 2303 *Screwed drainage fittings*

JIS B 2352 *Bellows type expansion joints*

**3 Classification** The terms shall be classified as follows:

- a) Fundamentals
- b) Connection type
- c) Fixed fitting
  - 1) Pipe fitting
  - 2) Pipe flange
- d) Adjustable fitting
  - 1) Adjustable type
  - 2) Bellows type

**4 Terms and definitions** Terms and their definitions shall be as follows:

- Remarks
- 1 The case of which a part of a term (Japanese character) is given with parentheses “( )” denotes that there are two applicable readings. That is, the term including the characters in parentheses and/or that excluding the characters therein may be used, and the former has a priority in use. When it is unambiguous, however, the characters in parentheses may be omitted.
  - 2 The numerals in parentheses affixed to the terms in the sentence used in the column of “definition” denote the “No.” of relevant term in this Standard.
  - 3 Attached Figs. show examples.

## a) Fundamentals

| No.  | Term<br>(Japanese character) | Reading                         | Definition                                                                                                                                                                                                                                                                                                                                                                              | English equivalent<br>(informative)                                                            |
|------|------------------------------|---------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| 1001 | 管                            | KUDA or KAN                     | A cylinder or the like used for conducting a fluid.                                                                                                                                                                                                                                                                                                                                     | pipe,<br>tube                                                                                  |
| 1002 | 管継手                          | KUDA TUGITE<br>or<br>KAN TUGITE | A fitting used for joining pipes in piping systems for the following purposes.<br>a) To change the direction of flow of fluid<br>b) To branch or collect fluid<br>c) To connect pipes<br>d) To connect pipes different in diameter<br>e) To close the ends of pipes<br>f) To mount instruments, valves, etc.<br>g) To absorb expansion, contraction, etc.<br>h) To rotate or bend pipes | connector,<br>pipe fitting,<br>pipe joint,<br>pipe coupling,<br>tube fitting,<br>tube coupling |
| 1003 | 接合方式                         | SETUGÓ HÔSIKI                   | A system to join pipes or pipe fittings to pipes, pipe fittings, or apparatuses.                                                                                                                                                                                                                                                                                                        | connection type                                                                                |
| 1004 | 固定式管継手                       | KOTEISIKI KUDA<br>TUGITE        | A pipe fitting used for the purpose of branching, collecting or changing the direction of flow of fluid, or connecting or closing the ends of pipes.<br>Remarks: The pipe fittings themselves do not regulate displacement in the pipes to be jointed.                                                                                                                                  | fixed fitting                                                                                  |
| 1005 | 可動式管継手                       | KADÔSIKI KUDA<br>TUGITE         | Pipe fittings used for the purpose of accommodating themselves to axial expansion and contraction, lateral displacement, bending displacement, or vibrations.                                                                                                                                                                                                                           | adjustable fitting                                                                             |
| 1006 | 同径管継手                        | DÔKEI KUDA TUGITE               | A pipe fitting which is uniform in nominal diameter.                                                                                                                                                                                                                                                                                                                                    | equal fitting                                                                                  |
| 1007 | 径違い管継手                       | KEI-TIGAI KUDA<br>TUGITE        | A pipe fitting with two or more different nominal diameters.                                                                                                                                                                                                                                                                                                                            | reducing fitting                                                                               |

| No.  | Term<br>(Japanese character) | Reading               | Definition                                                                                 | English equivalent<br>(informative) |
|------|------------------------------|-----------------------|--------------------------------------------------------------------------------------------|-------------------------------------|
| 1008 | 偏心管継手                        | HENSIN KUDA<br>TUGITE | A pipe fitting used for joining pipes so that mutual axes of pipes be shifted in parallel. | eccentric fitting                   |
| 1009 | 同心管継手                        | DÔSIN KUDA TUGITE     | A pipe fitting used for joining pipes so as to align mutual axes of pipes.                 | concentric fitting                  |
| 1010 | 管フランジ                        | KUDA HURANZI          | A flange-shaped pipe fitting used for joining pipes, apparatuses, etc.                     | pipe flange                         |

#### b) Connection type

| No.  | Term<br>(Japanese character) | Reading                   | Definition                                                                                                                                | English equivalent<br>(informative)          |
|------|------------------------------|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|
| 2001 | ねじ込み式                        | NEZIKOMISIKI              | A connection type in which pipe threads are used (see Attached Fig. 2001).                                                                | threaded type,<br>screwed type               |
| 2002 | ユニオン式                        | YUNIONSIKI                | A connection type in which parts of piping are joined by union nuts and screws (see Attached Fig. 2002).                                  | union type                                   |
| 2003 | 突合せ溶接式                       | TUKIAWASE YÔSETU-<br>SIKI | A connection type in which ends are butt welded (see Attached Fig. 2003).                                                                 | butt welding type                            |
| 2004 | 差込み溶接式                       | SASIKOMI YÔSETU-<br>SIKI  | A connection type in which ends are slip-on welded.<br>Remarks: It includes a slip-on welding type (2005) and socket welding type (2006). | socket welding type,<br>slip-on welding type |
| 2005 | スリップオン溶接式                    | SURIPPUN YÔSETU-<br>SIKI  | A type of welded joint (2004) which provides no positioning means for inserting the ends of pipes (see Attached Fig. 2005).               | slip-on welding type                         |
| 2006 | ソケット溶接式                      | SOKETTO YÔSETU-<br>SIKI   | A type of welded joint (2004) which provides a stopper (see Attached Fig. 2006).                                                          | socket welding type                          |
| 2007 | フランジ式                        | HURANZISIKI               | A connection type in which pipe flanges (1010) are connected with nuts and bolts (see Attached Fig. 2007).                                | flanged type                                 |

| No.  | Term<br>(Japanese character) | Reading        | Definition                                                                                                                                                                                 | English equivalent<br>(informative)         |
|------|------------------------------|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|
| 2008 | くい込み式                        | KUIKOMISIKI    | A connection type in which metal sleeves are bitten in the pipe ends (see Attached Fig. 2008).                                                                                             | bite type,<br>flareless type,<br>olive type |
| 2009 | フレア式                         | HUREASIKI      | A connection type in which the pipe ends are expanded into the shape of cone (see Attached Fig. 2009).                                                                                     | flared type                                 |
| 2010 | メカニカル式                       | MEKANIKARUSIKI | A connection type of which an insertion is included into a socket, and fastened by a rubber ring or a gasket with ferrule (see Attached Fig. 2010).                                        | mechanical type                             |
| 2011 | ハウジング式                       | HAUZINGUSIKI   | A connection type in which gaskets of a specific profile are attached to both ends of the joint, covered by a housing, and fastened with bolts, nuts, pins, etc. (see Attached Fig. 2011). | housing type                                |

## c) Fixed fitting

## 1) Pipe fitting

| No.  | Term<br>(Japanese character) | Reading    | Definition                                                                                                                                                                                                                                            | English equivalent<br>(informative) |
|------|------------------------------|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|
| 3101 | エルボ                          | ERUBO      | A pipe fitting with a relatively small radius of curvature, used for joining two pipes at a certain angle to each other (see Attached Fig. 3101).                                                                                                     | elbow                               |
| 3102 | ベンド                          | BENDO      | A pipe fitting with a relatively large radius of curvature, used for joining two pipes at a certain angle to each other (see Attached Fig. 3102).<br>Remarks: A return bend (refer to <b>JIS B 2301</b> ) has a remarkably small radius of curvature. | bend                                |
| 3103 | T                            | TÍ or TÍZU | A T-shaped pipe fitting used for joining three pipes in the shape of a T (see Attached Fig. 3103).                                                                                                                                                    | tee                                 |

| No.  | Term<br>(Japanese character) | Reading               | Definition                                                                                                                                                                                                                                                                                        | English equivalent<br>(informative) |
|------|------------------------------|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|
| 3104 | Y                            | WAI                   | A Y-shaped pipe fitting used for joining three pipes in the shape of a Y (see Attached Fig. 3104).                                                                                                                                                                                                | lateral                             |
| 3105 | クロス                          | KUROSU                | A cross pipe fitting used for joining four pipes crosswisely (see Attached Fig. 3105).                                                                                                                                                                                                            | cross                               |
| 3106 | レジュース                        | REZYŪSA               | A pipe fitting that is mainly of a butt welded type, and is used for joining two pipes with different diameters which are linearly or parallel shifted (see Attached Fig. 3106).<br>Remarks: It is sometimes referred to as "KATAOTI KUDA" especially for comparatively large size pipe fittings. | reducer                             |
| 3107 | ソケット                         | SOKETTO               | A pipe fitting that is mainly of screwed type, and is used for joining two pipes linearly (see Attached Fig. 3107).<br>Remarks: In JIS B 2303, those with different diameters are called "Increases".                                                                                             | socket                              |
| 3108 | カップリング                       | KAPPURINGU            | A pipe fitting that is mainly of a socket welding type, and is used for joining two pipes linearly (see Attached Fig. 3108).                                                                                                                                                                      | coupling                            |
| 3109 | キャップ                         | KYAPPU                | A cap-like pipe fitting used for closing the ends of pipes (see Attached Fig. 3109).                                                                                                                                                                                                              | cap                                 |
| 3110 | プラグ                          | PURAGU                | A plug-like pipe fitting used for closing the ends of pipes and pipe holes (see Attached Fig. 3110).                                                                                                                                                                                              | plug                                |
| 3111 | ユニオン                         | YUNION                | An assemblage type pipe fitting which belongs to the union type (2002) (see Attached Fig. 3111).                                                                                                                                                                                                  | union                               |
| 3112 | 組フランジ                        | KUMI HURANZI          | A flanged type pipe fitting (2002) consisting of a pair of two pipe flanges (see Attached Fig. 3112).                                                                                                                                                                                             | flange union                        |
| 3113 | ブッシング                        | BUSSINGU              | A pipe fitting with internal and external threads in different diameters (see Attached Fig. 3113).                                                                                                                                                                                                | bushing                             |
| 3114 | (管用)止めナット                    | (KUDAYŌ)<br>TOMENATTO | A nut-like pipe fitting used for locking threaded type pipe fittings (see Attached Fig. 3114).                                                                                                                                                                                                    | lock nut                            |

| No.  | Term<br>(Japanese character) | Reading         | Definition                                                                                                                                                                                                                | English equivalent<br>(informative) |
|------|------------------------------|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|
| 3115 | ニップル                         | NIPPURU         | A pipe fitting with external threads at both ends of the linear axis (see Attached Fig. 3115).                                                                                                                            | nipple                              |
| 3116 | ハーフカップリング                    | HÂHU KAPPURINGU | A pipe fitting to be welded at one end to the apparatus or to the side of the pipe and joined at the other end to a pipe by screwing or socket welding (see Attached Fig. 3116).                                          | half coupling                       |
| 3117 | タッカ                          | TAKKA           | A pipe fitting used mainly for mending drainage piping (see Attached Fig. 3117).<br>Remarks: One end is sealed with lead, etc.                                                                                            | tacker                              |
| 3118 | Uトラップ                        | U-TORAPPU       | A pipe fitting used for drainage piping, which stores water in the U section to close off the air stream from the sewerage (see Attached Fig. 3118).                                                                      | U trap                              |
| 3119 | スタブエンド                       | SUTABU ENDO     | A pipe fitting having flanges at the ends, and is used in combination with loose flanges (3207) (see Attached Fig. 3119).                                                                                                 | stub end                            |
| 3120 | アウトレット                       | AUTORETTO       | A pipe fitting used for joining branches after drilling a hole in the main pipe (see Attached Fig. 3120).                                                                                                                 | outlet                              |
| 3121 | マイタベンド                       | MAITABENDO      | A pipe fitting made by joining tubes obliquely for the purpose of the connection of two pipes at a certain cross angle (see Attached Fig. 3121).<br>Remarks: It is sometimes referred to as "curved pipe" or "bent pipe". | miter bends                         |

## 2) Pipe flange

| No.  | Term<br>(Japanese character) | Reading     | Definition                                                                                                                                  | English equivalent<br>(informative) |
|------|------------------------------|-------------|---------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|
| 3201 | 板フランジ                        | ITA HURANZI | A flat plate-like pipe flange (1010) (see Attached Fig. 3201).<br>Remarks: It includes round, rectangular and oval types, all without hubs. | plate flange                        |

| No.  | Term<br>(Japanese character) | Reading                  | Definition                                                                                                                                                                           | English equivalent<br>(informative)          |
|------|------------------------------|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|
| 3202 | ハブフランジ                       | HABU HURANZI             | A pipe flange with hubs (see Attached Fig. 3202).<br>Remarks: It includes a threaded type and socket welded types.                                                                   | hubbed flange                                |
| 3203 | ネックフランジ                      | NEKKU HURANZI            | A pipe flange with long hubs to be mainly butt-welded (see Attached Fig. 3203).<br>Remarks: It is also known as "welding neck flange".                                               | neck flange                                  |
| 3204 | 閉止フランジ                       | HEISI HURANZI            | A pipe flange used for closing the ends of pipes (see Attached Fig. 3204).<br>Remarks: Those with handles, grips, and so on, are also known as "flange bonnet".                      | blank flange,<br>blind flange                |
| 3205 | 眼鏡フランジ                       | MEGANE HURANZI           | A pipe flange in which a round plate flange and a blank flange are integrated in the shape of spectacles (see Attached Fig. 3205).                                                   | spectacle flange                             |
| 3206 | 一体フランジ                       | ITTAI HURANZI            | A pipe flange constituted integrally as a part of the pipe assemblies (see Attached Fig. 3206).                                                                                      | integral flange                              |
| 3207 | 逆合形フランジ                      | YŪGŌGATA HURANZI         | A pipe flange used in combination with a stub end (3119) (see Attached Fig. 3207).<br>Remarks: It is also known as "lap joint".                                                      | loose flange,<br>lapped flange,<br>lap joint |
| 3208 | Oリング形フランジ                    | O-RINGUGATA HURANZI      | A pipe flange with a groove into which an O ring can be inserted (see Attached Fig. 3208).                                                                                           | O ring flange                                |
| 3209 | デルタリング形フランジ                  | DERUTARINGU-GATA HURANZI | A pipe flange with a groove into which a delta ring can be inserted (see Attached Fig. 3209).<br>Remarks: A delta ring is a gasket having a section that is similar to "Δ" in Greek. | delta ring flange                            |
| 3210 | レンズリング形フランジ                  | RENZURINGU-GATA HURANZI  | A pipe flange to be joined by using a lens ring (see Attached Fig. 3210).<br>Remarks: A lens ring is a gasket in the form of a convex lens with a hole in its centre.                | lens ring flange                             |