

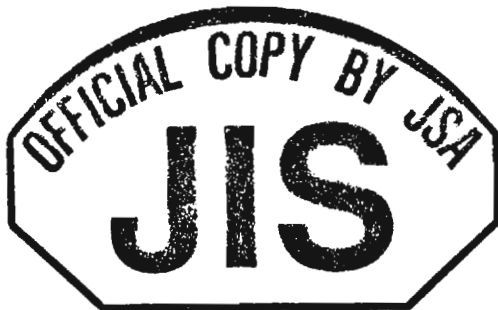
# JIS

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## JAPANESE INDUSTRIAL STANDARD

Glossary of terms relating to  
fittings for overhead contact  
system of electric railway

JIS E 2001-1989



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## JAPANESE INDUSTRIAL STANDARD

J I S

Glossary of Terms Relating to Fittings for  
Overhead Contact System of Electric Railway

E 2001-1989

1. Scope

This Japanese Industrial Standard specifies main terms relating to fittings for overhead contact system<sup>(1)</sup> of electric railway.

Note <sup>(1)</sup> It means the overhead contact system or feeding overhead contact system).

2. Classification

Terms shall be classified as follows:

- (1) Overhead contact system general
- (2) Fittings
  - (a) Catenary system for overhead contact system
  - (b) Direct suspension system for overhead contact system
  - (c) Overhead trolley-bar system for overhead contact system
  - (d) For feeding overhead contact system
- (3) Characteristics
- (4) Others

3. Terms and Meanings

Terms and meanings shall be as follows:

Furthermore, corresponding English is indicated for informative reference.

Remarks 1. The part of term appended with ( ) may be omitted.

2. In the column of term written in ( ) indicates "reading".

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Applicable Standards:

- JIS E 2101-Hard Drawn Grooved Trolley Wires
- JIS E 2205-Hanger Fittings for Overhead Contact System of Electric Railway
- JIS E 2206-Splicing Fittings for Overhead Contact System of Electric Railway
- JIS E 2207-Fittings for Feeder in Overhead Contact System of Electric Railway
- JIS E 2220-Connecting Sleeves of Stranded Conductors for Overhead Contact System of Electric Railway

## (1) Overhead Contact System General

| No.   | Term<br>(Japanese<br>character) | Reading                             | Definition                                                                                                                                                       | Remark                         | Informative<br>reference             |
|-------|---------------------------------|-------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|--------------------------------------|
|       |                                 |                                     |                                                                                                                                                                  |                                | English equivalent                   |
| G 101 | 架空単線式電車線路                       | KAKŪ TANSEN<br>SIKI DENSYA<br>SENRO | A overhead contact system of which overhead contact wires of one system are provided at upper part and the travel rail is used as return system.                 |                                | single over head<br>contact system   |
| G 102 | カテナリちよう架式                       | KATENARI<br>TYŌKA SIKI              | A system to suspend down contact wires (G 301) at each definite interval by using hanger with providing catenary wires (G 302). It is also called catenary type. |                                | catenary system                      |
| G 103 | シンブルカテナリ                        | SINPURU<br>KATENARI                 | A catenary equipment suspending a streak of contact wire from a streak of catenary wire.                                                                         | Refer to<br>Attached<br>Fig. 1 | simple catenary<br>equipment         |
| G 104 | コンパウンドカテナリ                      | KONPAUNDO<br>KATENARI               | Catenary equipment suspending contact wire with auxiliary catenary wires suspended from catenary wires.                                                          | Refer to<br>Attached<br>Fig. 2 | compound<br>catenary<br>equipment    |
| G 105 | ツインシンブルカテナリ                     | TUIN SINPURU<br>KATENARI            | Catenary equipment erected with two sets of simple catenaries in parallel at a definite interval.                                                                | Refer to<br>Attached<br>Fig. 3 | twin simple<br>catenary<br>equipment |
| G 106 | 直接ちよう架式                         | RYOKUSETU<br>TYŌKA SIKI             | A system to support directly the contact wire by span wire and the like without providing catenary wire.                                                         | Refer to<br>Attached<br>Fig. 4 | direct suspension<br>system          |
| G 107 | 剛体ちよう架式                         | GŌTAI<br>TYŌKA SIKI                 | A system to fix contact wire at the lower part with providing rigid conductor at the upper part.                                                                 |                                | over head trolley-<br>bar system     |

| No.   | Term<br>(Japanese<br>character) | Reading                 | Definition                                                                                                                                                                                                                    | Remark                   | Informative<br>reference      |  |
|-------|---------------------------------|-------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|-------------------------------|--|
|       |                                 |                         |                                                                                                                                                                                                                               |                          | English equivalent            |  |
| G 201 | トロリ線の高さ                         | TORORI SEN NO<br>TAKASA | The vertical height of contact wire to the rail surface.                                                                                                                                                                      |                          | contact wire height           |  |
| G 202 | トロリ線の偏位                         | TORORI SEN NO<br>HEN'I  | Stagger of contact wire from the central surface of track.                                                                                                                                                                    |                          | stagger                       |  |
| G 203 | トロリ線の流れ                         | TORORI SEN NO<br>NAGARE | Travelling in railway line of contact wire by friction force at passing of pantagraph, gradient of railway line, lateral tensile force of trolley wire, etc.                                                                  |                          | creeping move of contact wire |  |
| G 204 | しゅう面                            | SYŪMEN                  | Contact wire surface where pantagraph slides.                                                                                                                                                                                 |                          | contact surface               |  |
| G 205 | 引き角度                            | HIKI KAKUDO             | An angle included by the line connecting the centre of arm end hole of pull-off, steady arm, etc. with the centre <sup>(2)</sup> of contact wire and by the horizontal line passing the centre of contact wire.               | Refer to Attached Fig. 5 | -                             |  |
| G 301 | トロリ線                            | TORORI SEN              | An electric wire to supply electricity by contacting with current collector of rolling stock thereto [Refer to JIS E 2101].                                                                                                   |                          | contact wire                  |  |
| G 302 | ちょう架線                           | TYŌKA SEN               | An electric wire or wire to be erected for suspending contact wire flatly.<br>Remark: The electric wire means the wire streak to be erected to pass electric current and the wire means wire streak other than electric wire. |                          | catenary wire                 |  |

| No.   | Term<br>(Japanese<br>character) | Reading            | Definition                                                                                                      | Remark | Informative<br>reference |
|-------|---------------------------------|--------------------|-----------------------------------------------------------------------------------------------------------------|--------|--------------------------|
|       |                                 |                    |                                                                                                                 |        | English equivalent       |
| G 303 | 補助ちょう架線                         | HOZO TYŌKA<br>SEN  | An electric wire to suspend contact wire by erecting under the catenary wire in compound catenary.              |        | auxiliary catenary wire  |
| G 304 | わたり線装置                          | WATARI SEN<br>SŌTI | An equipment of sliding part of pantagraph with crossing over trolley wires.                                    |        | cross-over equipment     |
| G 401 | き電線                             | KI DENSEN          | An electric wire to feed electricity to contact wire from a substation for feeding.                             |        | feeder                   |
| G 402 | き電分岐                            | KIDEN BUNKI        | A connecting place between the feeder and the contact wire to feed electricity to contact wire from the feeder. |        | feeding branch           |

Note (2) The hole centre in the case where the arm end hole is elliptic is radial centre at end side.

## (2) Fittings

## (a) Catenary System for Overhead Contact System

| No.   | Term<br>(Japanese<br>character) | Reading                            | Definition                                                                                                                             | Remark                          | Informative<br>reference |  |
|-------|---------------------------------|------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|--------------------------|--|
|       |                                 |                                    |                                                                                                                                        |                                 | English equivalent       |  |
| C 100 | ちょう架金具                          | TYŌKA KANAGU                       | The generic term of fittings to hang contact wire or auxiliary catenary wire such as hanger wire, dropper, etc. [Refer to JIS E 2205]. |                                 | hanger fittings          |  |
| C 101 | (カテナリ式用)<br>ハンガイヤー              | (KATENARI SIKI<br>YŌ)<br>HANGAIYĀ  | A fitting to hang a contact wire on catenary wire (including auxiliary catenary wire) in catenary type overhead contact system.        | Refer to<br>Attached<br>Fig. 6  | dropper ear              |  |
| C 102 | ドロップ                            | DROPPA                             | A fitting to hang an auxiliary catenary wire on the catenary wire.                                                                     | Refer to<br>Attached<br>Fig. 7  | dropper                  |  |
| C 103 | 合成架線素子                          | GŌSEI KASEN<br>SOSI                | A fitting composed of spring and damper to hang contact wire or auxiliary catenary wire on the catenary wire.                          | Refer to<br>Attached<br>Fig. 8  | composite dropper        |  |
| C 104 | (カテナリ式用)<br>保護カバー               | (KATENARI SIKI<br>YŌ)<br>HOGO KABĀ | A cover to protect damage of electric wire or wire in catenary type overhead contact system.                                           | Refer to<br>Attached<br>Fig. 9  | wire protector           |  |
| C 200 | 接続金具                            | SETUZOKU<br>KANAGU                 | Generic term of fittings to connect contact wires such as double ear, splicer, etc. [Refer to JIS E 2206].                             |                                 | splicing fittings        |  |
| C 201 | ダブルイヤー                          | DABURU IYĀ                         | A fitting to splice a contact wire with other contact wire.                                                                            | Refer to<br>Attached<br>Fig. 10 | double ear               |  |

| No.   | Term<br>(Japanese<br>character) | Reading                         | Definition                                                                                                                                                                  | Remark                    | Informative<br>reference      |  |
|-------|---------------------------------|---------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|-------------------------------|--|
|       |                                 |                                 |                                                                                                                                                                             |                           | English equivalent            |  |
| C 202 | ワイヤクリップ                         | WAIYA KURIPPU                   | A fitting to retain electric wires or wires with overlapping.                                                                                                               | Refer to Attached Fig. 11 | wire clip                     |  |
| C 203 | スリーブ                            | SURĪBU                          | A fitting to connect by compressing electric wires or wires [Refer to JIS E 2220].                                                                                          | Refer to Attached Fig. 12 | sleeve                        |  |
| C 204 | 連結金具                            | RENZOKU KANAGU                  | A fitting to link insulator, electric wire fitting, etc.                                                                                                                    | Refer to Attached Fig. 13 | link                          |  |
| C 205 | カタナリ式用<br>コネクタ                  | KATENARI SIKI<br>YŌ<br>KONEKUTA | A fitting to connect electrically contact wires, auxiliary catenary wires or catenary wires of not less than two streaks mutually in catenary type overhead contact system. | Refer to Attached Fig. 14 | connector                     |  |
| C 301 | ワイヤターミナル                        | WAIYĀ TĀMINARU                  | A fitting to retain or link with folding back electric wire or wire to fix by wedge.                                                                                        | Refer to Attached Fig. 15 | wire terminal                 |  |
| C 302 | 引留クランプ                          | HIKITOME KURANPU                | A fitting to strain or connect electric wires or wires without folding back by fixing with compression, bolts or wedges.                                                    | Refer to Attached Fig. 16 | strain clamp,<br>anchor clamp |  |
| C 303 | ヨーク                             | YŌKU                            | A fitting to strain two electric wires or wires with keeping a definite interval.                                                                                           | Refer to Attached Fig. 17 | yoke                          |  |
| C 401 | 振止金具<br>(ふれどめかなぐ)               | HUREDOME KANAGU                 | A fitting to retain deviated position of contact wire and auxiliary catenary wire in linear section.                                                                        | Refer to Attached Fig. 18 | steady arm                    |  |

| No.   | Term<br>(Japanese<br>character) | Reading                                        | Definition                                                                                                                                                                            | Remark                    | Informative<br>reference          |  |
|-------|---------------------------------|------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|-----------------------------------|--|
|       |                                 |                                                |                                                                                                                                                                                       |                           | English equivalent                |  |
| C 402 | 曲線引金具                           | KYOKUSEN HIKI<br>KANAGU                        | A fitting to retain deviated position of contact wire and auxiliary catenary wire in curved line section.                                                                             | Refer to Attached Fig. 19 | pull-off                          |  |
| C 403 | セパレータ                           | SEPARĒTA                                       | A fitting to keep interval of mutual contact wires at constant.                                                                                                                       | Refer to Attached Fig. 20 | separator,<br>spacer              |  |
| C 501 | 交差金具                            | KŌSA KANAGU                                    | A fitting to limit the difference in heights of mutual contact wires in cross-over equipment.                                                                                         | Refer to Attached Fig. 21 | crossing clamp                    |  |
| C 601 | ワイヤターンバックル                      | WAIYA TĀN<br>BAKKURU                           | A fitting to regulate a tensile force of electric wire or wire.                                                                                                                       | Refer to Attached Fig. 22 | wire turnbuckle                   |  |
| C 602 | テンションバランス                       | TENSYON<br>BARANSA                             | A fitting to regulate automatically a tensile force of electric wire or wire to a definite value.                                                                                     | Refer to Attached Fig. 23 | automatic<br>tensioning<br>device |  |
| C 701 | (カテナリ式用)<br>セクションイン<br>シュレータ    | (KATENARI SIKI<br>YŌ)<br>SEKUSYON<br>INSYURĒTA | A fitting composed of an insulating part, connecting fitting, hanger, etc., in order to insulate in section electrically the contact wire in a catenary type overhead contact system. | Refer to Attached Fig. 24 | section insulator                 |  |
| C 801 | 可動ブラケット                         | KADŌ<br>BURAKETTO                              | A bracket capable of rotating horizontally with taking the attaching point to the supporter as the centre.                                                                            | Refer to Attached Fig. 25 | hinged cantilever                 |  |
| C 802 | がいし金具                           | GAISI KANAGU                                   | A fitting to attach an insulator to a supporter.                                                                                                                                      | Refer to Attached Fig. 26 | fittings for<br>insulator         |  |

| No.   | Term<br>(Japanese<br>character) | Reading         | Definition                                                                                                                           | Remark                    | Informative<br>reference<br>English equivalent |
|-------|---------------------------------|-----------------|--------------------------------------------------------------------------------------------------------------------------------------|---------------------------|------------------------------------------------|
| C 803 | 電柱バンド                           | DENTYŪ<br>BANDO | A fitting to attach a beam, fitting of trolley wire, etc. to a mast.<br>Remark: The beam means the beam to support the trolley wire. | Refer to Attached Fig. 27 | band                                           |

(b) Direct Suspension System for Overhead Contact System

| No.   | Term<br>(Japanese<br>character) | Reading                           | Definition                                                                                                          | Remark                    | Informative<br>reference<br>English equivalent |
|-------|---------------------------------|-----------------------------------|---------------------------------------------------------------------------------------------------------------------|---------------------------|------------------------------------------------|
| D 101 | (直ちよう式用)<br>ハンガイヤー              | (TYOKUTYŌ SIKI<br>YŌ)<br>HANGAIYĀ | A fitting to hang directly a contact wire on a span wire in a direct suspension system for overhead contact system. | Refer to Attached Fig. 28 | hanger ear                                     |
| D 201 | ダブルイヤー                          | DABURU IYĀ                        | A fitting to connect a contact wire along to an other contact wire (Refer to number C 201).                         | Refer to Attached Fig. 29 | double ear                                     |
| D 202 | トリプルイヤー                         | TORIPURU IYĀ                      | A fitting to connect three contact wires along to each other.                                                       | Refer to Attached Fig. 30 | triple ear                                     |
| D 203 | スプライサ                           | SUPURAISA                         | A fitting to a contact wire with an other contact wire with butting.                                                | Refer to Attached Fig. 31 | splicer                                        |
| D 204 | ワイヤクリップ                         | WAIYA KURIPPU                     | A fitting to strain electric wires or wires with overlapping (Refer to number C 202).                               | Refer to Attached Fig. 11 | wire clip                                      |

| No.   | Term<br>(Japanese<br>character) | Reading                           | Definition                                                                                                                                           | Remark                          | Informative<br>reference      |  |
|-------|---------------------------------|-----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|-------------------------------|--|
|       |                                 |                                   |                                                                                                                                                      |                                 | English equivalent            |  |
| D 205 | 連結金具                            | RENKETU<br>KANAGU                 | A fitting to link an insulator, trolley wire fitting, etc. (Refer to number C 204).                                                                  | Refer to<br>Attached<br>Fig. 13 | link                          |  |
| D 206 | (直ちよう式用)<br>コネクタ                | (TYOKUTYŌ<br>SIKI YŌ)<br>KONEKUTA | A fitting to connect electrically two or more contact wires mutually in a direct suspension type overhead contact system.                            | Refer to<br>Attached<br>Fig. 32 | connector                     |  |
| D 301 | アンカイヤー                          | ANKAIYĀ                           | A fitting to prevent flow of contact wire.                                                                                                           | Refer to<br>Attached<br>Fig. 33 | anchor ear                    |  |
| D 302 | ワイヤターミナル                        | WAIYA TĀMINARU                    | A fitting to strain or connect by fixing with wedge with folding back the electric wire or wire (Refer to number C 301).                             | Refer to<br>Attached<br>Fig. 15 | wire terminal                 |  |
| D 303 | 引留クランプ                          | HIKITOME<br>KURANPU               | A fitting to strain or connect by fixing by bolts or wedges with compressing the electric wire or wire without folding back (Refer to number C 302). | Refer to<br>Attached<br>Fig. 16 | strain clamp,<br>anchor clamp |  |
| D 401 | カーブイヤー                          | KĀBU IYĀ                          | A fitting to retain a contact wire at a curved line place.                                                                                           | Refer to<br>Attached<br>Fig. 34 | curve ear                     |  |
| D 402 | カーブハンガ                          | KĀBU HANGA                        | A fitting to retain a curve ear at a curved line place.                                                                                              | Refer to<br>Attached<br>Fig. 34 | curve hanger                  |  |
| D 501 | クロッシング                          | KUROSSINGU                        | A fitting to retain mutual positions of contact wires at intersecting place.                                                                         | Refer to<br>Attached<br>Fig. 35 | crossing                      |  |

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| No.   | Term<br>(Japanese<br>character) | Reading                                        | Definition                                                                                                                                                                          | Remark                    | Informative<br>reference |  |
|-------|---------------------------------|------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------------|--|
|       |                                 |                                                |                                                                                                                                                                                     |                           | English equivalent       |  |
| D 601 | ワイヤターン<br>バックル                  | WAIYA TĀN<br>BAKKURU                           | A fitting to regulate the tensile force of electric wire or wire by screw thread (Refer to number C 601).                                                                           | Refer to Attached Fig. 22 | wire turnbuckle          |  |
| D 701 | (直ちよう式用)<br>セクションイン<br>シュレータ    | (TYOKUTYŌ SIKI<br>YŌ)<br>SEKUSYON<br>INSYURĒTA | A fitting composed of insulating part, connecting fitting, etc. in order to insulate in section contact wires electrical-ly in direct suspension system of overhead contact system. | Refer to Attached Fig. 36 | section insulator        |  |
| D 801 | 電柱バンド                           | DENTYŪ BANDO                                   | A fitting to attach wire, trolley wire fittings, etc. to a mast.                                                                                                                    | Refer to Attached Fig. 27 | band                     |  |
| D 901 | フロッグ                            | HUROGGU                                        | A fitting to retain mutual position of contact wires at branching place.                                                                                                            | Refer to Attached Fig. 37 | frog                     |  |