

# JIS

**JAPANESE INDUSTRIAL STANDARD**

**General rules on non-  
separable type wire  
connectors for interior wiring**

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In the event of any doubt arising,  
the original Standard in Japanese is to be final authority.

## JAPANESE INDUSTRIAL STANDARD

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General rules on non-separable type wire  
connectors for interior wiring

C 2810-1995

1. Scope This Japanese Industrial Standard specifies non-separable type wire connectors used for such mechanical connection as crimping and compression of copper wires or aluminum wires which serve in general interior or outside wall wiring not exceeding 600 V (hereafter referred to as "wire connectors"). The range of wires applicable to these wire connectors is 1.0 mm to 3.2 mm in diameter for solid wires (excluding aluminum wires), and 0.75 mm<sup>2</sup> to 1000 mm<sup>2</sup> (excluding aluminum wire of 14 mm<sup>2</sup> or less) in nominal cross sectional area for stranded wires or flexible stranded wires.

Remarks 1. The following standard is cited in this Standard:

JIS C 9711 Compression tools for wire connectors of interior wiring

2. Definitions For the purpose of this Standard, the following principal definitions apply:

- (1) non-separable type wire connector This means the separate entities used for linear connection, branch connection or end connection of wires or such entities as terminal lugs to be connected to the end of wire which do not allow separation of wires after connection without breaking of the wire connector body.
- (2) crimping connection Such connection that the joint is deformed by pressure applied by an asymmetrical die.
- (3) compression connection Such connection that the joint is deformed by pressure applied by a symmetrical die.

3. Classification Wire connectors are classified as given in Table 1.

Table 1.

| Classification by<br>connecting system | Classification by<br>number of heat cycles |
|----------------------------------------|--------------------------------------------|
| Crimping                               | Class A                                    |
| Compression                            | Class B                                    |
|                                        | Class C                                    |

#### 4. Performance

4.1 Construction When the test is performed in accordance with 7.2, the requirements specified in 5., 6., and 9. shall be met.

**4.2 Temperature rise** When the test is performed in accordance with 7.3, the temperature rise value of conductive parts shall not exceed 30 K or the temperature rise of the connected wire.

**4.3 Heat cycle** When the test is performed in accordance with 7.4, either of the following requirements shall be met.

- (1) The temperature rise of the wire connector at the 25th cycle shall not exceed 75 K and each temperature rise measured at succeeding cycles shall not exceed the measured value at the 25th cycle plus 8 K.
- (2) The temperature rise of the wire connector at the 25th cycle shall not exceed the temperature rise of the connected wire and the temperature rise of the wire connector measured at succeeding cycles shall not exceed the measured value at the 25th cycle plus 8 K.

**4.4 Tensile load** When the test is performed in accordance with 7.5, there shall not occur any breakage or permanent deformation in the wire connector, or dropping out, slipping, or rupture of the connected wire, or other abnormalities.

**5. Construction** The construction of wire connectors shall meet the following requirements:

- (1) During the connecting operation and in the continuous service condition of the wire connector, no harmful damage shall be caused on the conductor or covering of the wire.
- (2) When a connecting operation is performed by using a connecting tool as specified in JIS C 9711 or by using a connecting tool specified by the manufacturer according to the method specified by the manufacturer, the process of the connecting operation and the condition of the connecting part shall meet the following requirements:
  - (a) The wire connecting operation shall be easy to perform to obtain a perfect connection and the connecting operation shall not require any reduction or addition of the component wires of the strand.
  - (b) No rupture, cracking, nor other damage shall occur.
- (3) Those wire connectors requiring covering by tape winding shall not have sharp edges or projections likely to damage the tape applied.
- (4) Those wire connectors intended for the connection of copper wire and aluminum wire shall have a construction to prevent direct contact between the copper wire and the aluminium wire.

**6. Materials** Materials shall meet the following requirements:

- (1) The conductive material of wire connectors for copper wires shall consist of copper or copper alloys and have no risk of being harmfully corroded or cracked during their service.