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**Junction box for indoor wiring (for
600 V polyvinyl chloride insulated
and sheathed cables : VVF)**

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Descriptors : junction boxes, electric wiring systems, insulated cables,
polyvinyl chloride, sheathed cables

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Documents

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In the event of any doubts arising as to the contents,
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Junction box for indoor wiring (for 600 V polyvinyl chloride insulated and sheathed cables : VVF)

1 Scope This Japanese Industrial Standard specifies junction boxes equipped with terminal metal fittings which have cable anchoring and allow insertion of outer sheath to be used for connecting or branching 600 V PVC insulated and sheathed cables specified in **JIS C 3342** (hereafter referred to as "cables") in indoor wiring of a.c. 300 V or less at a frequency of 50 Hz or 60 Hz.

The working ambient temperature shall not exceed 40 °C.

Remarks 1 Ganged apparatus specified in **JIS C 8303** and **JIS C 8304** which can be mounted to the mounting frame of **JIS C 8375** are included.

2 Boxes for such special use as water-proof type and explosion-proof type are not included.

3 The following standards are cited in this Standard:

JIS B 1501 *Steel balls for ball bearings*

JIS C 0073 *Fire hazard testing Part 2 : Test methods – Section 1 / sheet 1 : Glow-wire end-product test and guidance*

JIS C 3307 *600 V Polyvinyl chloride insulated wires*

JIS C 3342 *600 V Polyvinyl chloride insulated and sheathed cables*

JIS C 8303 *Plugs and receptacles for domestic and similar general use*

JIS C 8304 *Small switches for indoor use*

JIS C 8306 *Testing methods for wiring devices*

JIS C 8375 *Mounting frame for interchangeable wiring devices of large square boss type*

JIS H 3100 *Copper and copper alloy sheets, plates and strips*

JIS H 3110 *Phosphor bronze and nickel silver sheets, plates and strips*

JIS H 3130 *Copper beryllium alloy, phosphor bronze and nickel silver sheets, plates and strips for springs*

JIS H 8610 *Electroplated coatings of zinc on iron or steel*

JIS K 6915 *Phenolic molding compounds*

JIS K 6916 *Urea-formaldehyde molding compounds*

2 Definition For the purpose of this Standard the following principal definitions apply :

- (1) **screwless terminal** The terminal of the structure that is connected automatically by inserting conductor of electric wire (annealed copper solid wire) directly into the terminal.

- (2) **number of branches** The number of circuits branched from the main line. The terminals prepared for insertion of switch into a branched circuit is not considered to be a part of the branched circuit and is, therefore, not counted as the number of branches.

3 Classification and ratings The classification and ratings of boxes shall be as given in Table 1.

Table 1 Classification and rating

Classification			Rated current A	Rated voltage V
Kind of terminal	Number of poles	Number of branches		
Screw terminal	2, 3	1, 2, 3	15, 20, 30	300
Screwless terminal			15, 20	

4 Performances

4.1 Insulation resistance The insulation resistance shall be not less than 5 MΩ when the test is carried out in accordance with 6.2.

4.2 Dielectric withstand voltage The specimen shall withstand the test voltage when subjected to the test of 6.3.

4.3 Temperature rise The temperature rise of screwless terminal shall be not higher than 35 °C when the test is carried out in accordance with 6.4.

4.4 Resistance to heat The synthetic resin moldings or the rubber moldings shall not cause softening, deformation, blister, or other abnormality detrimental to serve when subjected to the test of 6.6.

4.5 Robustness of terminal (screw terminal only) The terminal part shall not cause damage of terminal or terminal screw when the test is carried out in accordance with 6.5.

4.6 Performance of screwless terminal When the test is carried out in accordance with 6.7, 6.8, 6.9 and 6.10, the screwless terminal shall conform to the respective requirements specified below :

The wire to be used for the test shall be of the annealed copper solid wire specified in JIS C 3307.

In the case where two or more wires different in thickness (nominal) are connected together, the test shall be carried out on the separate specimen using the wires of minimum and maximum (nominal) thickness unless otherwise specified.

(1) **Tensile strength** When the specimen is tested in accordance with 6.7, it shall show no pull-out of wire, damage of terminal portion or other failure harmful to use.

(2) **Bending strength** When the specimen is tested in accordance with 6.8, it shall show no pull-out of wire, damage of terminal portion or other failure harmful to use and shall comply with 4.3.