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Low-voltage cables for automobiles

ICS 29.060.10; 43.040.10

Descriptors : insulated cables, polyvinyl chloride, vinyl chloride, low-voltage equipment,
insulated wires, road vehicles

Reference number : JIS C 3406 : 1993 (E)

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Foreword

This translation has been made based on the original Japanese Industrial Standard revised by the Minister of International Trade and Industry through deliberations at Japanese Industrial Standards Committee in accordance with the Industrial Standardization Law:

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Low-voltage cables for automobiles

1. Scope

This Japanese Industrial Standard specifies the vinyl insulated low-voltage cables for automobiles, hereinafter referred to as the "cable".

Remarks : Normative references are as follows :

JIS C 3005-Testing Methods for Rubber or Plastic insulated wires and Cables

JIS C 3102-Annealed Copper Wires for Electrical Purposes

JIS K 2203-Kerosine

JIS K 2215-Internal Combustion Engine Oils

JIS R 6251-Abrasive Cloths

JIS Z 8721-Specification of Colours According to their Three Attributes

2. Symbol

The symbol for the cables shall be AV⁽¹⁾.

Note ⁽¹⁾ A represents low-voltage cables for automobiles, and V represents vinyl compound.

3. Characteristics

The characteristics of the cable shall comply with Table 1 when tested according to 6.

Table 1 Characteristics

Item		Characteristics	Clause of testing method to apply
Conductor resistance		Not more than the value of Attached Table 1.	6.2
Withstand voltage	Spark	To withstand 5000 V for 0.15 sec. or more	6.3 (1)
	Immersion	To withstand 1000 V for 1 min	6.3 (2)
Tension of insulator	Tensile strength	Not less than 16 MPa	6.4
	Elongation	Not less than 125 %	6.4
Oil-resistance		Immersed in oil at 50°C for 20 h and bent; to withstand 1000 V for 1 min	6.5
Heat-resistance		Heated at 120°C for 120 h and bent; to withstand 1000 V for 1 min	6.6
Low temperature		Cooled at -40°C for 3 h and bent; to withstand 1000 V for 1 min	6.7
Burning resistance		After burning, flame to go out of itself within 15 sec.	6.8
Abrasion-resistance		Not less than the minimum abrasion-resistance value of Table 7	6.9

4. Materials, Construction and Method of Manufacture

The materials, construction and method of manufacture of cables shall comply with Attached Table 1 and the following items.

- (1) Conductors The conductors shall be stranded with component wires consisting of annealed copper wires specified in JIS C 3102. A paper tape may be lapped on the conductor, if necessary.
- (2) Insulator Vinyl compound shall be used to cover the conductor of (1) in concentric form with it. The thickness of insulator shall be not less than 90 % of the values specified in Attached Table 1, with the minimum of measured values not less than 80 % of the values specified in Attached Table 1.