

AVSS Cables for Automobiles

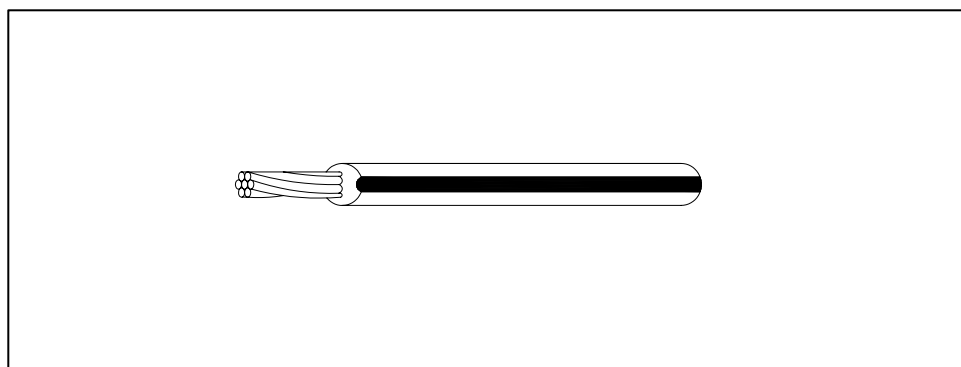


FIG.1

1. USE :

Cable used in low voltage circuits in automobiles(vehicles and motorcycles)

2. Material and Structure

The material and structure of the cable shall conform to the following items and Table 1

2.1 Electric conductor

The electric conductor shall be a strand consisting of the annealed copper wire specified in JIS C3102 (Annealed copper wire)

2.2 Insulator

The electric conductor specified in Item 2.1 shall be coated with vinyl concentrically.

The average thickness of the insulator shall be 90% MIN of the vales specified in Table 1.

Also, 80% MIN of the values specified in Table 1 shall be provide at the area of the minimum thickness.

3. Cable Color Marking (Stripes)

Two straight lines shall be indicated on the cable surface in the axial direction by imperishable way.

The marking width shall be 0.5 to 1.3 m/m.

Table 1

Conductor		Insulation Thickness	Overall diameter		Conductor resistance 20°C	Weight	Minimum abrasion resistance
Nominal Size	Construction		Standard	Max			
mm ²	No./mm	mm	mm	mm	Ω/m	g/m	times
0.3	7/0.26	0.3	1.4	1.5	0.0502	5	100
0.5	7/0.32	0.3	1.6	1.7	0.0327	7	300
0.85	19/0.24	0.3	1.8	1.9	0.0217	10	350
1.25	19/0.29	0.3	2.1	2.2	0.0149	14	500
2.0	37/0.26	0.4	2.6	2.7	0.0095	23	1500

AV : Low-Voltage Cable SS : Extra Thin

4. Characteristics .

After being subjected to the tests specified in Item 5, the characteristics of this cable shall conform to Table 2.

Table 2

Items		Characteristics	Test to be applied
Conductor resistance		Not higher than the values in Table 1	Per 24028NDS00
Withstand voltage	Sparking	The part shall withstand 5000 V for 0.15 s MIN	Per 24028NDS00
	Immersion in water	The part shall withstand 1000 V for 1min	Per 24028NDS00
Insulator	Tensile strength	15.7 MPa { 1.6 kgf/mm ² } MIN	Per 24028NDS00
	Elongation	125% MIN	
Oil resistance		After being immersed in oil at 50°C for 20h and bent, the part shall withstand 1000 V for 1 min	Per 24028NDS00
Heat resistance		After being heated to 120°C for 120h and bent, the part shall withstand 1000 V for 1 min	Per 24028NDS00
Low-temperature resistance		After being cooled to -40°C for 3 h and bent, the part shall withstand 1000 V for 1 min	Per 24028NDS00
Flame retardation		The flame shall go out within 15 s after being in flames.	Per 24028NDS00
Abrasion resistance		The minimum abrasion resistance under 7 ±0.05 Newton load is as show in Table 1	Per JASO D618-97
Heat shrinkage		After being heated to 150°C for 15 min, the heat shrinkage rate shall be 4% MAX	Per JASO D618-1986
Heat shrinkage 2		After being heated to 70°C for 144 h, the amount of shrinkage of the cable sheath shall be 4 mm MAX	
Marking strength		Peeling or excessive fading shall not occur.	
Insulation resistance		Volume specific resistance shall be 10 ⁹ Ω- mm MIN.	Per 24028NDS00

☆ Quoted standards

NDS : NISSAN DESIGN SPECIFICATION

JIS C3005 : Testing method for plastic insulated wires and cables

JIS C3102 : Annealed copper wires for electrical purposes

JIS Z8721 : specification of colors according to their three attributes

JASO D611 : Low-Tension cables with thin wall insulation for automobiles

JASO D618 : hard drawn steel wires

24028NDS00 : Ability test of low voltage electric wires for automobile