

**SPECIFICATION****For****0.6/1KV-VV-AWA (0010)**

0.6/1(1.2)kV

PVC Insulated PVC Inner Sheathed

Aluminium Wire Armor

PVC Outer Sheathed Power Cable

(0.6/1(1.2)kV, Cu/PVC/PVC/AWA/PVC)

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Rev.	Date	Description
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CUSTOMER

Customer Document	Rev.

**Remark:**

This document is based on the Customer Document for the structure and properties of electric wire and cable only. If there are different points, will be shown in deviation table.

## **1. Scope**

This specification covers 1000V copper conductor polyvinyl chloride (PVC) insulated polyvinyl chloride (PVC) inner sheathed aluminium wire armored polyvinyl chloride (PVC) outer sheathed power cable.

The cable shall be in accordance with IEC 60502-1 : 2004 and Amend.1 : 2009.

The finished cables shall meet the flame test requirements per IEC 60332-1.

## **2. Conductor**

The conductor shall be solid and non-compacted concentric stranded uncoated annealed copper conductor in accordance with IEC 60228 : 2004, Class 1 and Class 2.

The direction of lay shall be reversed in successive layers and left-hand (S) lay in the outermost layer.

## **3. Insulation**

The insulation shall be polyvinyl chloride (PVC/A) compound meet the requirements of IEC 60502-1 : 2004.

The average thickness of the insulation shall be not less than that given in Table 1.

The minimum thickness shall not fall below the value in Table 1 by more than 10% plus 0.1 mm.

The color of insulation shall be black.

## **4. Inner Sheath**

The inner sheath shall be polyvinyl chloride (PVC) compound applied over the insulation.

The approximate thickness given in Table 1

The color of the inner sheath shall be black.

## **5. Aluminium Wire Armor**

The armor shall be round aluminium wire and shall applied with a minimum gap between adjacent wires over the inner sheathed.

A suitable tape may be applied helically over the armored.

## **6. Outer Sheath**

The outer sheath shall be sunlight resistant polyvinyl chloride (PVC/ST1) compound meet the requirements of IEC 60502-1 : 2004.


The average thickness of the outer sheath shall be not less than that given in Table 1.

The minimum thickness shall not fall below the value in Table 1 by more than 20% plus 0.2 mm.

The color of the outer sheath shall be black.

## 7. Marking on Cable

The marking items shall be marked with suitable means throughout the length of cable.

1. Manufacturer's name and/or trade mark "  YAZAKI..... : TYE"
2. Year of manufacture
3. Rated circuit voltage "0.6/1KV"
4. Type of insulation "PVC"
5. Type of cable "POWER CABLE"
6. Number of core and size of conductor
7. The continuous reel length marking (in figure) shall be made on the outer sheath at every 1 meter

## 8. Test and Properties

The cable shall meet the requirements in Test and Inspection and Table 1 , when tested in accordance with IEC 60502-1 : 2004 and Amend.1 : 2009, IEC 60228 : 2004 and IEC 60332-1.


Remark: Sunlight resistant test meet the requirement of TIS 293-2541.

## 9. Packing

The cable shall be placed on non-returnable wooden reels.

The reels shall be covered with suitable covering to provide the cable with physical protection during transportation and during ordinary storage and handling operations.

Each reel shall be clearly marked as follows.

1. Designation "0.6/1KV-VV-AWA (0010)"
2. Number of core and size of conductor
3. Cable length
4. Net and gross weight
5. Manufacturer's name and/or trade mark "  **YAZAKI** "
6. Rolling direction of reel

## Test and Inspection

### Routine Tests

- Maximum conductor resistance, Ohm/km..... specified in Table 1
- AC test voltage for 5 minutes, kV..... 3.5

### Sample Tests

- Construction..... specified in Table 1

### Type Tests

- Flame retardant tested according to IEC 60332-1.

### Definition concerning the tests

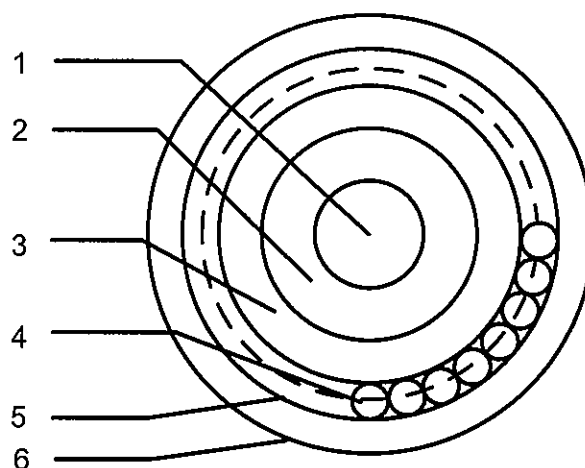
**Routine tests:** Tests made by the manufacturer on each manufactured length of cable to check that each length meets the specified requirements.

**Sample tests:** Tests made by the manufacturer on samples of completed cable or components taken from a completed cable, at a specified frequency, so as to verify that the finished product meets the specified requirements.

**Type tests:** Tests made before supplying, on a general commercial basis, a type of cable covered by this standard, in order to demonstrate satisfactory performance characteristics to meet the intended application.

### Cable structure

Cross-sectional (Not scale)



No.	Structure	Material
1	Conductor	Solid & non-compacted concentric stranded annealed copper
2	Insulation	Polyvinyl chloride (PVC/A)
3	Inner sheath	Polyvinyl chloride (PVC)
4	Armor	aluminium wire
5	Binder tape	PS tape or suitable tape
6	Outer sheath	Polyvinyl chloride (PVC/ST1)

**Application:** Use for installation in open tray, conduit, underground duct trench or direct burial in ground, at wet or dry location. Maximum conductor temperature of 70°C for normal operation and 160°C for short circuit conditions.

**Table 1**

No. of core	Size (mm <sup>2</sup> )	Conductor (wires/type)	Conductor diameter approx. (mm)	Insulation thickness nominal (mm)	Inner sheath thickness approx. (mm)	Dia. of inner sheath approx. (mm)	Armor wire dia. nominal (mm)	Outer sheath thickness nominal (mm)	Overall diameter approx. (mm)	Conductor resistance at 20 °C maximum (Ohm/km)	Weight of cable approx. (kg/km)	Standard packing length (m)
1	1.5	Solid	1.38	0.8	1.2	6.0	1.25	1.8	12.5	12.1	190	500
1	2.5	Solid	1.78	0.8	1.2	6.4	1.25	1.8	13.0	7.41	210	500
1	4	Solid	2.25	1.0	1.2	7.3	1.25	1.8	14.0	4.61	250	500
1	6	7/Non-compacted	3.12	1.0	1.2	8.2	1.25	1.8	14.5	3.08	290	500
1	10	7/Non-compacted	3.98	1.0	1.2	9.0	1.25	1.8	15.5	1.83	350	500
1	16	7/Non-compacted	5.10	1.0	1.2	10.0	1.25	1.8	16.5	1.15	440	500
1	25	7/Non-compacted	6.26	1.2	1.2	11.5	1.25	1.8	18.0	0.727	550	500
1	35	19/Non-compacted	7.65	1.2	1.2	13.0	1.25	1.8	19.5	0.524	700	500
1	50	19/Non-compacted	8.73	1.4	1.2	14.5	1.25	1.8	21	0.387	850	500
1	70	19/Non-compacted	10.70	1.4	1.2	16.5	1.25	1.8	23	0.268	1100	500
1	95	19/Non-compacted	12.60	1.6	1.2	19.0	1.60	1.8	26	0.193	1500	500
1	120	37/Non-compacted	14.21	1.6	1.2	21	1.60	1.8	28	0.153	1800	500
1	150	37/Non-compacted	15.75	1.8	1.2	23	2.00	1.8	31	0.124	2200	500
1	185	37/Non-compacted	17.64	2.0	1.2	25	2.00	1.9	33	0.0991	2600	500
1	240	61/Non-compacted	20.25	2.2	1.2	28	2.00	2.0	36	0.0754	3300	500
1	300	61/Non-compacted	22.68	2.4	1.2	31	2.00	2.1	39	0.601	4000	500
1	400	61/Non-compacted	25.65	2.6	1.2	34	2.00	2.2	43	0.0470	5000	500
1	500	61/Non-compacted	28.80	2.8	1.2	38	2.50	2.3	48	0.0366	6500	500

**Table 1 (continued)**

No. of core	Size (mm <sup>2</sup> )	Conductor (wires/type)	Conductor diameter approx. (mm)	Insulation thickness nominal (mm)	Inner sheath thickness approx. (mm)	Dia. of inner sheath approx. (mm)	Armor wire dia. nominal (mm)	Outer sheath thickness nominal (mm)	Overall diameter approx. (mm)	Conductor resistance at 20 °C maximum (Ωhm/km)	Weight of cable approx. (kg/km)	Standard packing length (m)
1	630	127/Non-compacted	32.76	2.8	1.3	42	2.50	2.5	52	0.0283	8000	500
1	800	127/Non-compacted	37.05	2.8	1.4	46	2.50	2.6	57	0.0221	9500	300
1	1000	127/Non-compacted	41.60	3.0	1.4	51	2.50	2.7	62	0.176	12000	300