

**SPECIFICATION****For****0.6/1KV-NYCY**

0.6/1(1.2)kV PVC Insulated PVC Inner Sheathed

Concentric Conductor with Copper Contact Tape

PVC Outer Sheathed

with Protection Earthed Power Cable

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

BY 

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CUSTOMER

Rev.	Date	Description
0	27/1/2025	Issued specification

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 polyvinyl chloride (PVC) outer sheathed concentric conductor with copper contact tape with protection earthed power cable.

The cable shall be in accordance with on IEC 60502-1 : 2021.

- Flame retardant test requirements per IEC 60332-1.

## 2. Conductor

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

The direction of lay shall be 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 : 2021.

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

The minimum thickness shall not fall below 90% of the nominal value in Table 1 by more than 0.1 mm.

## 4. Cabling

The individual insulated cores shall be cabled together with suitable PVC rod to give the completed cable a substantially circular cross section.

The direction of lay shall be left-hand (S) lay.

## 5. Core Identification

The cores shall be identified by colors, as follows :

3-cores + PE : brown, black, grey + green/yellow

## 6. Inner Sheath

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

The average thickness given in Table 1.

The color of the inner sheath shall be black.

## 7. Concentric Conductor

The concentric conductor shall consist of plain annealed round copper wires applied helically over the inner sheathed.

The contact tape shall be an annealed uncoated copper tape and shall be applied helically with a gap over the concentric conductor.

The thickness of the copper tape shall be approximate 0.1 mm.

A separator tape shall be applied helically over the contact tape.

## 8. Outer Sheath

The outer sheath shall be polyvinyl chloride (PVC/ST1) compound meet the requirements of IEC 60502-1 : 2021.


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

The minimum thickness shall not fall below 80% of the nominal value in Table 1 by more than 0.2 mm.

The color of the outer sheath shall be black.

## 9. Marking on Cable

The marking items shall be marked by printed at intervals not exceeding 1 meter 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 conductor "CU"
5. Type of insulation and outer sheath "PVC/PVC"
6. Type of cable "SHIELD POWER CABLE"
7. Number of cores and size of conductor
8. The continuous reel length marking (in figure) shall be made on the outer sheath at every 1 meter

## 10. Test and Properties


The cable shall meet the requirements in Test and Inspection and Table 1, when tested in accordance with IEC 60502-1 : 2021, IEC 60228 : 2004 and IEC 60332-1.

## 11. 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-NYCY "
2. Number of cores 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 ree

### **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 Test**

- Flame retardant tested according to IEC 60332-1.

#### **Definition concerning the tests**

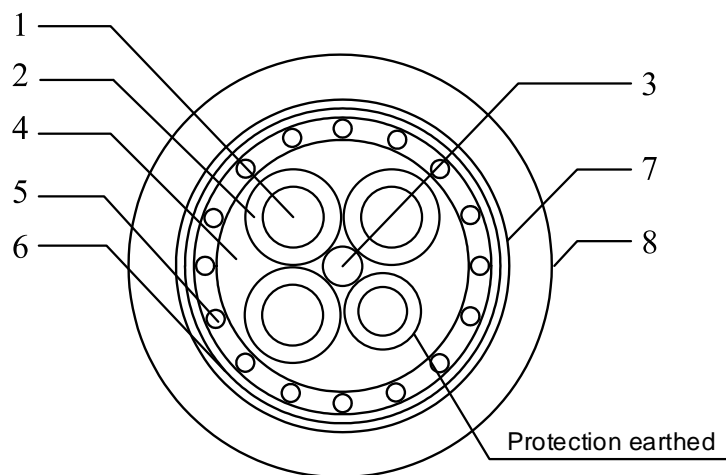
**Routine tests :** Tests made by the manufacturer on each manufactured length of cable to check that each length meets the specified requirements.

**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	Stranded annealed copper
2	Insulation	Polyvinyl chloride (PVC/A) compound
3	Filler	PVC Rod
4	Inner sheath	Polyvinyl chloride (PVC) compound
5	Concentric conductor	Plain annealed round copper wire
6	Contract tape	Copper contract tape
7	Separator tape	Spun bond tape
8	Outer sheath	Polyvinyl chloride (PVC/ST1) compound

**Application:** For installation exposed, or in raceway, wet or dry location, or direct burial in ground, Maximum conductor temperature of 70 °C for normal operation and 160 °C for short circuit condition

**Table1**

No. of cores	Conductor  (wires/type)	Conductor diameter approx.  (mm)	Insulation thickness nominal  (mm)	Inner sheath thickness approx. (mm)	Dia. of inner sheath approx. (mm)	Concentric conductor area  (mm <sup>2</sup> )	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)
3+PE x 70/35/35	19/Non-compacted	10.70	1.4	1.2	34.5	35	2.3	43.0	0.268	3562	500
3+PE x 120/70/70	37/Non-compacted	14.21	1.6	1.4	45.0	70	2.6	53.5	0.153	6045	500
3+PE x 150/95/95	37/Non-compacted	15.75	1.8	1.5	50.0	95	2.9	60.5	0.124	7535	500

**Table 1 (continued)**

**FOR PROTECTION EARTHED CONDUCTORS**

No. of core	Size  (mm <sup>2</sup> )	Conductor  (wires/type)	Conductor diameter approx.  (mm)	Insulation thickness nominal  (mm)	Conductor resistance at 20°C maximum (Ohm/km)
1	35	19/Non-compacted	7.65	1.2	0.524
1	70	19/Non-compacted	10.70	1.4	0.268
1	95	19/Non-compacted	12.60	1.6	0.193