

**SPECIFICATION****For****60227 IEC 07 HIV**

300/500V 90 °C Copper Conductor PVC Insulated Single Core

(300/500V, Cu/PVC)

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CUSTOMER

Rev.	Date	Description
0	25/11/2021	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 300/500V copper conductor polyvinyl chloride (PVC) insulated single core.

Maximum conductor temperature shall be 90°C.

The wire shall be in accordance with TIS 11 Part 3-2553, Table 9.

Flame retardant test TIS 11 Part 2-2553 (Same IEC 60332-1 : 2015)

## 2. Conductor

The conductor shall be solid uncoated annealed copper conductor in accordance with TIS 2427-2552, Class 1.

## 3. Insulation

The insulation shall be polyvinyl chloride (PVC/E) compound meeting the requirements of TIS 11 Part 3-2553.


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 the insulation shall be black or white or blue or brown or grey or red or yellow or green or green/yellow.

## 4. 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. Designation "60227 IEC 07 HIV"
3. Rated voltage "300/500V "
4. Insulation material "PVC"
5. Max. operating rated temperature at conductor "90°C"
6. Number of core and size of conductor
7. TIS logo and standard number

## 5. Test and Properties


The cable shall be meet the requirement in Test and Inspection and Table 1, when tested in accordance with TIS 11 Part 3-2553 (Same IEC 60227-3 : 1997), TIS 2427-2552 (Same IEC 60228 : 2004) and TIS 11 Part 2-2553 (Same IEC 60332-1 : 2015).

Remark: Except black color insulation; For longer life of cable should be avoid exposure to direct solar radiation it necessary, cover is required.

## 6. Packing

The finished wire shall be placed on the coiled and wrapped with plastic which shall be overlapped and secured to provide the cable with physical protection during transportation and during ordinary storage and handling operation.

Each package shall be clearly marked as follows.

1. Rated voltage "300/500V "
2. Max. operating rated temperature at conductor "90°C"
3. Designation "60227 IEC 07 HIV"
4. Number of core and size of conductor
5. Cable length
6. Net and gross weight
7. Month and year of manufacture
8. Manufacturer's name and/or trade mark "  **YAZAKI** "

### **Test and Inspection**

#### **Sample Tests**

- Maximum conductor resistance, Ohm/km ..... specified in Table 1
- AC test voltage for 5 minutes, kV .....2
- Construction.....specified in Table 1

#### **Type Tests**

This cable shall be tested as followed :

- Minimum insulation resistance at 90 °C, MOhm-km ..... specified in Table 1
- Flame retardant tested according to TIS 11 Part 2-2553 (Same IEC 60332-1: 2015)

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

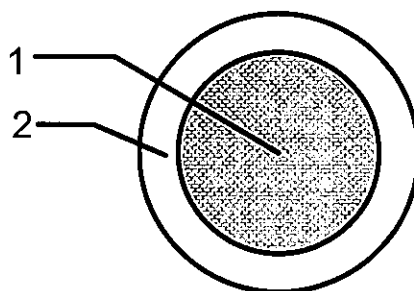
**Routine tests:** Tests made by the manufacturer on each manufactured length of cable to check that each length meets the specified requirements.

**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 annealed copper
2	Insulation	Polyvinyl chloride (PVC/E)

**Application:** For installation in raceway dry location, Maximum conductor temperature of 90 °C for normal operation and 160 °C for short circuit conditions.

**Table 1**

Nominal size  (mm <sup>2</sup> )	Conductor type	Conductor diameter approx.  (mm)	Insulation thickness nominal  (mm)	Overall diameter average (mm)		Conductor resistance at 20°C maximum (Ohm/km)	Insulation resistance at 90°C minimum (MOhm-km)	Weight approx.  (kg/km)	Standard length  (m)
				Minimum	Maximum				
0.5	Solid	0.80	0.6	1.9	2.3	36.0	0.015	9	100/Coil
0.75	Solid	0.98	0.6	2.1	2.5	24.5	0.013	11	100/Coil
1	Solid	1.13	0.6	2.2	2.7	18.1	0.012	14	100/Coil
1.5	Solid	1.38	0.7	2.6	3.2	12.1	0.011	20	100/Coil
2.5	Solid	1.78	0.8	3.2	3.9	7.41	0.009	32	100/Coil