

SPECIFICATION**For****60227 IEC 57**

300/500V 90 °C Flexible Conductor PVC Insulated PVC Sheathed with Grounded

Round Type Cable

(300/500V, Cu/PVC/PVC)

BY

(Somchai Chanthorn)

MANAGER, Cable Design Section

APP.

(Winai Ariyasakulsap)

MANAGER, Development Department

APP.

()

CUSTOMER

Rev.	Date	Description
0	11/11/2019	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 flexible copper conductor polyvinyl chloride (PVC) insulated polyvinyl chloride (PVC) sheathed with grounded round type cable.

Maximum conductor temperature shall be 90°C.

The wire shall be in accordance with TIS 11 Part 5-2553, Table 13

(Same IEC 60227-5 : 2003, Table 13).

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

2. Conductor

The conductor shall be flexible stranded uncoated annealed copper conductor in accordance with TIS 2427-2552, Class 5 (Same IEC 60228 : 2004, Class 5).

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

3. Insulation

The insulation shall be polyvinyl chloride (PVC/E) compound meeting the requirements of TIS 11 Part 5-2553 (Same IEC 60227-5 : 2003).

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.

4. Cabling

The individual insulated cores shall be cabled together with suitable length of lay.

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

5. Core Identification

The cores shall be identified by colors, as follows :

2-cores + G : blue, brown + green/yellow

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

4-cores + G : blue, brown, black, grey + green/yellow

6. Sheath

The sheath shall be polyvinyl chloride (PVC/ST10) compound meeting the requirements of TIS 11 Part 5-2553 (Same IEC 60227-5 : 2003).


The average thickness of the 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 15% plus 0.1 mm.

The color of the 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. Designation "60227 IEC 57"
3. Rated voltage "300/500V "
4. Insulation and sheath material "PVC/PVC"
5. Max. operating rated temperature at conductor "90°C"
6. Number of cores and size of conductor
7. TIS logo and standard number


8. 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 5-2553 (Same IEC 60227-5 : 2003), TIS 2427-2552 (Same IEC 60228 : 2004) and TIS 11 Part 2-2553 (Same IEC 60332-1 : 2015).

9. Packing

The finished wire shall be 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 57"
4. Number of cores 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, kV2
- Construction.....specified in Table 1

Type Tests

This cable shall be tested as followed :

- Insulation Resistance at 90 °C specified in Table 1
- Flame retardant tested according to TIS 11 Part 2-2553 (Same IEC 60332-1)

Definition concerning the tests

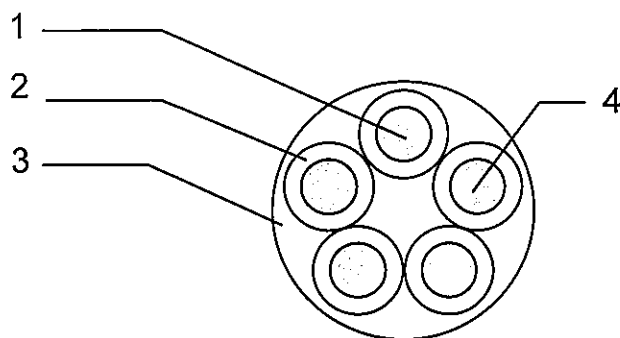
Routine tests: Tests made by the manufacturer on each manufactured length of cable to check that each length meets the specified requirements.

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	Flexible stranded annealed copper
2	Insulation	Polyvinyl chloride (PVC/E)
3	Sheath	Polyvinyl chloride (PVC/ST10)
4	Ground	Copper conductor/PVC insulated

Application: For household appliances, electrical equipment and electrical illumination, Maximum conductor temperature of 90 °C for normal operation and 160 °C for short circuit condition.

Table 1

No. of core and size (core x mm ²)	Conductor		Insulation thickness nominal (mm)	Sheath thickness nominal (mm)	Overall diameter average (mm)		Conductor resistance at 20 °C maximum (Ohm/km)	Insulation resistance at 90 °C minimum (MOhm-km)	Weight of cable approx. (kg/km)	Standard packing length (m)
	Type	Diameter approx. (mm)			Minimum	Maximum				
2+G x 0.75/0.75	Flexible	1.15	0.6	0.8	6.0	7.6	26.0	0.011	65	100/Coil
2+G x 1/1	Flexible	1.30	0.6	0.8	6.3	8.0	19.5	0.010	80	100/Coil
2+G x 1.5/1.5	Flexible	1.60	0.7	0.9	7.4	9.4	13.3	0.010	110	100/Coil
2+G x 2.5/2.5	Flexible	2.10	0.8	1.1	9.2	11.4	7.98	0.009	170	100/Coil
3+G x 0.75/0.75	Flexible	1.15	0.6	0.8	6.6	8.3	26.0	0.011	80	100/Coil
3+G x 1/1	Flexible	1.30	0.6	0.9	7.1	9.0	19.5	0.010	100	100/Coil
3+G x 1.5/1.5	Flexible	1.60	0.7	1.0	8.4	10.5	13.3	0.010	140	100/Coil
3+G x 2.5/2.5	Flexible	2.10	0.8	1.1	10.1	12.5	7.98	0.009	210	100/Coil
4+G x 0.75/0.75	Flexible	1.15	0.6	0.9	7.4	9.3	26.0	0.011	100	100/Coil
4+G x 1/1	Flexible	1.30	0.6	0.9	7.8	9.8	19.5	0.010	120	100/Coil
4+G x 1.5/1.5	Flexible	1.60	0.7	1.1	9.3	11.6	13.3	0.010	170	100/Coil
4+G x 2.5/2.5	Flexible	2.10	0.8	1.2	11.2	13.9	7.98	0.009	250	100/Coil

Table 1 (continued)

FOR GROUNDED CONDUCTOR

Size (mm ²)	Conductor		Insulation thickness nominal (mm)	Conductor resistance at 20 °C maximum (Ohm/km)
	Type	Diameter approx. (mm)		
0.75	Flexible	1.15	0.6	26.0
1	Flexible	1.30	0.6	19.5
1.5	Flexible	1.60	0.7	13.3
2.5	Flexible	2.10	0.8	7.98