

**SPECIFICATION****For****25KV-CC (T1)**

25kV

All Aluminium Spaced Aerial Cable

(25kV, Al/XLPE/XLPE)

BY Wachara  
(Wachara Sangsomritphon)

MANAGER, Cable Design Section

APP. Wachara  
(Surachart Mame)

MANAGER, Development Department

Rev.	Date	Description
0	13/09/2019	Issued specification
1	21/12/2020	Change marking on cable
2	23/11/2021	Correct the value in Table 1
3	22/12/2021	Update reference standard
4	31/01/2023	Update reference standard
5	15/02/2023	Correct the value in Table 1

APP. \_\_\_\_\_

( )

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 25000V aluminum conductor cross-linked polyethylene (XLPE) insulated cross-linked polyethylene (XLPE) sheathed spaced aerial cable.

The cable shall be in accordance with TIS 2341-2564, Table 1.

## **2. Conductor**

The conductor shall be compacted concentric stranded hard drawn aluminum conductor in accordance with TIS 293-2541.

The direction of lay shall be right-hand (Z) in the outermost layers.

## **3. Conductor Shield**

The conductor shield shall be a layer of extruded semi-conducting cross-linked polyethylene compound.

The average thickness of the conductor shield shall be not less than 0.3 mm.

The minimum thickness of the conductor shield shall be not less than 0.07 mm.

## **4. Insulation**

The insulation shall be cross-linked polyethylene (XLPE) compound meet the requirements of TIS 2341-2564.

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

The minimum thickness shall be not less than 90% of the value in Table 1.

The thickness of the insulation shall not be included that of conductor shield.

The color of the insulation shall be white.

(White color is natural color of XLPE insulation)

## **5. Sheath**

The sheath shall be filled carbon black cross-linked polyethylene (XLPE) compound with track resistance, meet the requirements of TIS 2341-2564.


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

The minimum thickness shall be not less than 90% of the value in Table 1.

The color of the sheath shall be black.

## 6. 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 "25KV"
4. Type of conductor "AL"
5. Type of insulation and sheath "XLPE/XLPE"
6. Type of cable "T1 SPACED AERIAL CABLE"
7. Size of conductor
8. TIS logo and standard number
9. The continuous reel length marking (in figure) shall be made on the sheath at every 1 meter

## 7. Test and Properties


The cable shall meet the requirements in Test and Inspection and Table 1, when tested in accordance with TIS 2341-2564 and TIS 293-2541.

## 8. 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 "25KV-CC (T1)"
2. Size of cable
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..... 38

### Definition concerning the tests

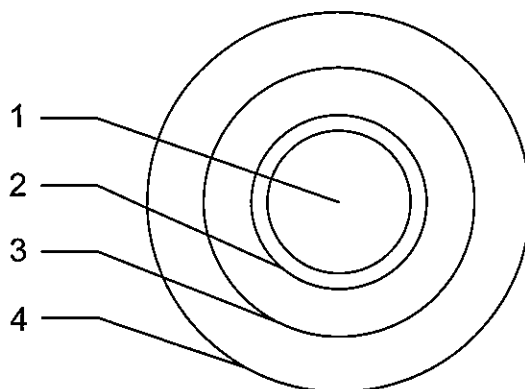
**Routine tests:** Tests made by the manufacturer on each manufactured length of cable to check that each length meets the specified requirements.

**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	Compacted concentric stranded hard drawn aluminum
2	Conductor shield	Semi-conducting compound
3	Insulation	Cross-linked polyethylene (XLPE)
4	Sheath	Cross-linked polyethylene (XLPE)

**Application:** For aerial power transmission and distribution line.

**Table 1**

No. of core	Size (mm <sup>2</sup> )	Conductor (wires/type)	Conductor diameter (mm)	Insulation thickness nominal (mm)	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	35	7/Compacted	6.6 - 7.5	3.18	3.18	19.9 - 21.5	0.868	390	500
1	50	7/Compacted	7.7 - 8.6	3.18	3.18	22.0 - 24.0	0.641	440	500
1	70	19/Compacted	9.3 - 10.2	3.18	3.18	23.0 - 25.0	0.443	550	500
1	95	19/Compacted	11.0 - 12.0	3.18	3.18	25.0 - 27.0	0.320	650	500
1	120	19/Compacted	12.5 - 13.5	3.18	3.18	26.5 - 28.7	0.253	750	500
1	150	19/Compacted	13.9 - 15.0	3.18	3.18	28.0 - 30.2	0.206	850	500
1	185	34/Compacted	15.5 - 16.8	3.18	3.18	29.4 - 31.7	0.164	1000	500
1	240	34/Compacted	17.8 - 19.2	3.18	3.18	32.1 - 34.4	0.125	1200	500