

SPECIFICATION**For****0.6/1KV-CE (0080)**

0.6/1(1.2)kV

XLPE Insulated PE Sheathed

Power Cable

(0.6/1(1.2)kV, Cu/XLPE/PE)

BY



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CUSTOMER

Rev.	Date	Description
0	3/09/2020	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.

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1. Scope

This specification covers 1000V copper conductor cross-linked polyethylene (XLPE) insulated polyethylene (PE) sheathed power cable.

The cable shall be in accordance with TIS 2143-2546.

(Same IEC 60502-1 : 2004 and Amend.1 : 2009.)

(Reference PEA's specification No. RCBL-043/2554 Rev.No.2)

2. Conductor

For size 6 mm² :

The conductor shall be non-compacted concentric stranded uncoated annealed copper conductor in accordance with TIS 2427-2552, Class 2 (Same IEC 60228 : 2004, Class 2).

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

For size ≥ 10 mm² :

The conductor shall be compacted concentric stranded uncoated annealed copper conductor in accordance with TIS 2427-2552, Class 2 (Same 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 cross-linked polyethylene (XLPE) compound meet the requirements of TIS 2143-2546. (Same IEC 60502-1 : 2004)

The average thickness of the insulation shall be not less than that given in Table 2.

The minimum thickness shall be not less than 90% of the value in Table2.

The color of insulation shall be white.

(White color is natural color of XLPE insulation)

4. Sheath

The sheath shall be polyethylene (PE/ST7) compound meet the requirements of TIS 2143-2546. (Same IEC 60502-1 : 2004)

The average thickness of the sheath shall be not less than that given in Table 2.

The minimum thickness shall not be less than 80% of the value in Table 2.

The color of the sheath shall be black.

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5. Marking on Cable

The surface of sheath shall be marked legibly and durably in Thai language, at the interval of about 50 cm., as follow

“การไฟฟ้าส่วนภูมิภาค สายเคเบิลใต้ดิน ซีวี สำหรับใช้กับ ระบบ A โวลต์ ขนาด B ตร.มม., สัญญาเลขที่ C, D, E, F, G”

Where

A : Rated voltage (600V)

B : Nominal cross-sectional area

C : The purchase contract number

D : Manufacturer's name and/or trade-mark

E : PEA trade-mark, as the figure below



F : Year of manufacture

G : Others according to manufacturer's design

The cable length marking shall be made on the outer sheath trough whole length started from “0” with 1 meter increment

6. Test and Properties

The cable shall meet the requirements in Table 1 and Table 2, when tested in accordance with TIS 2143-2546, TIS 2427-2552 (Same IEC 60502-1 : 2004 and Amend.1 : 2009, IEC 60228 : 2004) and PEA's specification No. RCBL-043/2554 Rev.No.2.

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7. 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-CE (0080)"
2. Number of core and size of conductor
3. Cable length
4. Net and gross weight
5. Year of manufacture
6. Manufacturer's name and/or trade mark "  **YAZAKI** "
7. Rolling direction of reel and cable end position

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Table 1

Routine Test

Maximum conductor resistance, Ohm/km specified in Table 2

AC test voltage for 5 minutes, kV..... 3.5

The number of length to be tested shall be decided by agreement between the purchaser (or its representative) and the manufacturer or shall be 10% of the number of lengths in the contract.

Sample Test

*Construction specified in Table 2

**Hot set test at $200^{\circ}\text{C} \pm 3^{\circ}\text{C}$ for XLPE

Maximum elongation under load (%)175

Maximum permanent elongation after cooling (%) 15

*The test shall be made on one length from each manufacturing series of the same size of cable, but shall be limited to not more than 10% of the number of lengths in the contract, as specified in TIS 2143-2546.

**The test shall be made on samples taken from cables manufactured for the contract, on the following basis, as specified in TIS 2143-2546.

Cable Length		Number of samples
Above (km)	Up to and including (km)	
4	20	1
20	40	2
40	60	3
etc.		etc.

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Table 2

No. of core	Size (mm ²)	Conductor (wires/type)	Conductor diameter (mm)	Insulation thickness nominal (mm)	Sheath thickness nominal (mm)	Overall diameter (mm)	Conductor resistance at 20°C maximum (Ohm/km)	Weight of cable approx. (kg/km)	Standard packing length (m)
1	6	7/Non-compacted	3.0 - 3.4	0.7	1.4	7.2 - 7.8	3.08	90	500
1	10	7/Compacted	3.6 - 4.0	0.7	1.4	7.8 - 8.4	1.83	130	500
1	16	7/Compacted	4.6 - 5.2	0.7	1.4	8.8 - 9.5	1.15	180	500
1	25	7/Compacted	5.6 - 6.5	0.9	1.4	10.2 - 11.2	0.727	280	500
1	35	7/Compacted	6.6 - 7.5	0.9	1.4	11.2 - 12.2	0.524	370	500
1	50	19/Compacted	7.7 - 8.6	1.0	1.4	12.5 - 13.5	0.387	490	500
1	70	19/Compacted	9.3 - 10.2	1.1	1.4	14.3 - 15.3	0.268	700	500
1	95	19/Compacted	11.0 - 12.0	1.1	1.5	16.2 - 17.3	0.193	950	500
1	120	37/Compacted	12.3 - 13.5	1.2	1.5	17.7 - 18.9	0.153	1200	500
1	150	37/Compacted	13.7 - 15.0	1.4	1.6	19.7 - 21.0	0.124	1500	500
1	185	37/Compacted	15.3 - 16.8	1.6	1.6	21.7 - 23.2	0.0991	1800	500
1	240	61/Compacted	17.6 - 19.2	1.7	1.7	24.4 - 26.0	0.0754	2400	500

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