


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

0.6/1(1.2)kV

PVC Insulated PVC Sheathed

Cabtyre Cable

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

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Rev.	Date	Description
0	8/10/2019	Issued specification
1	21/6/2021	Cancel code "0010"
2	24/9/2021	Add 5-cores
3	4/8/2022	Delete size 300 mm ² to 630 mm ²
4	20/2/2023	Add size 1 x 1.5 - 6 mm ²
5	23/2/2024	Add size 1 x 300 mm ²
6	9/4/2024	Update specification
7	15/5/2024	Delete size 1 x 300 mm ²
8	14/1/2025	Update specification

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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 1000V copper conductor polyvinyl chloride (PVC) insulated polyvinyl chloride (PVC) sheathed cable.

The cable shall be based on IEC 60502-1 : 2021.

The finished cables shall meet the flame test requirements per IEC 60332-1.

2. Conductor

The conductor shall be flexible stranded uncoated annealed copper conductor in accordance with IEC 60228 : 2004, Class 5.

For size 1.5 to 4 mm² : The direction of lay shall be left-hand (S) lay.

For size 6 mm² to 240 mm² : The direction of lay shall be right-hand (Z) lay.

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 (For multi-cores only)

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

Single-core : black

2-cores : blue, brown

3-cores : brown, black, grey

4-cores : blue, brown, black, grey

5-cores : blue, brown, black, grey, green/yellow

6. Sheath

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


The average thickness of the sheath shall not be 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 sheath shall be black.

7. 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 sheath "PVC/PVC"
6. Type of cable "CABTYRE CABLE"
7. Number of cores and size of conductor
8. The continuous reel length marking (in figure) shall be made on the sheath at every 1 meter (For single-core size 10 up to 240 mm²)

8. 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.


Remark: Sunlight resistant test meet the requirement of TIS 293-2541.

9. 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 operation.

Each package shall be clearly marked as follows.

1. Designation "0.6/1KV-VCT"
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 reel

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 Tests

- Flame retardant tested according to IEC 60332-1.

Definition concerning the tests

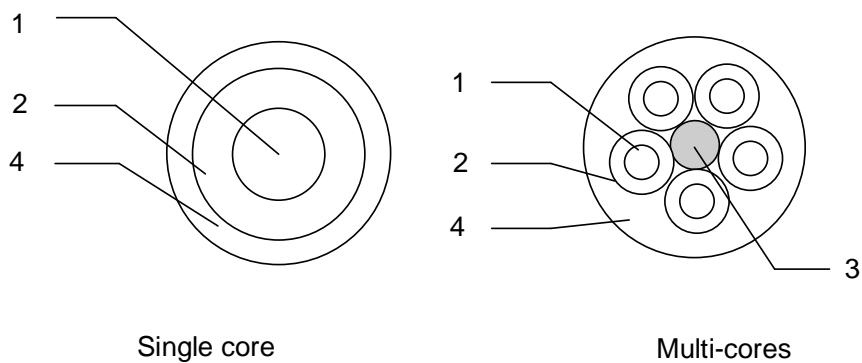
Routine tests: Tests made by the manufacturer on each manufactured length of cable to check that each length meets the specified requirements.

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	Flexible stranded uncoated annealed copper
2	Insulation	Polyvinyl chloride (PVC/A) compound
3	Filler	PVC rod
4	Sheath	Polyvinyl chloride (PVC/ST1) compound

Application: Use for installation in open tray, conduit, underground duct trench or direct burial in ground, at wet or dry location. Maximum conductor temperature of 70°C for normal operation and 160°C for short circuit conditions.

Table 1

No. of core	Size (mm ²)	Conductor type	Conductor diameter approx. (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	1.5	Flexible	1.55	0.8	1.5	7.0	13.3	59	500
1	2.5	Flexible	2.00	0.8	1.5	7.5	7.98	72	500
1	4	Flexible	2.60	1.0	1.6	9.0	4.95	104	500
1	6	Flexible	3.40	1.0	1.7	10.0	3.30	140	500
1	10	Flexible	4.60	1.0	1.7	11.0	1.91	201	500
1	16	Flexible	5.60	1.0	1.8	12.0	1.21	271	500
1	25	Flexible	6.90	1.2	1.9	14.0	0.780	392	500
1	35	Flexible	8.30	1.2	2.0	16.0	0.554	523	500
1	50	Flexible	9.90	1.4	2.2	18.0	0.386	715	500
1	70	Flexible	11.80	1.4	2.3	20.5	0.272	955	500
1	95	Flexible	13.60	1.6	2.4	23.0	0.206	1235	500
1	120	Flexible	15.60	1.6	2.6	25.5	0.161	1575	500
1	150	Flexible	17.40	1.8	2.7	27.5	0.129	1923	500
1	185	Flexible	18.80	2.0	2.8	30.0	0.106	2242	500
1	240	Flexible	21.70	2.2	3.1	34.0	0.0801	2955	500

Table 1 (continued)

No. of cores	Size (mm ²)	Conductor type	Conductor diameter approx. (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)
2	1.5	Flexible	1.55	0.8	1.7	11.0	13.3	143	500
2	2.5	Flexible	2.00	0.8	1.8	12.0	7.98	182	500
2	4	Flexible	2.60	1.0	1.9	14.5	4.95	268	500
2	6	Flexible	3.40	1.0	2.0	16.5	3.30	363	500
2	10	Flexible	4.60	1.0	2.2	19.0	1.91	540	500
2	16	Flexible	5.60	1.0	2.3	21.5	1.21	718	500
2	25	Flexible	6.90	1.2	2.6	25.5	0.780	1060	500
2	35	Flexible	8.30	1.2	2.8	28.5	0.554	1414	500
2	50	Flexible	9.90	1.4	3.0	33.5	0.386	1932	500
2	70	Flexible	11.80	1.4	3.3	37.5	0.272	2585	500
2	95	Flexible	13.60	1.6	3.6	43.0	0.206	3387	500
2	120	Flexible	15.60	1.6	3.9	48.0	0.161	4283	500
2	150	Flexible	17.40	1.8	4.2	53.0	0.129	5286	500
2	185	Flexible	18.80	2.0	4.4	57.5	0.106	6167	500
2	240	Flexible	21.70	2.2	4.8	65.0	0.0801	8056	500

Table 1 (continued)

No. of cores	Size (mm ²)	Conductor type	Conductor diameter approx. (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)
3	1.5	Flexible	1.55	0.8	1.8	12.0	13.3	170	500
3	2.5	Flexible	2.00	0.8	1.8	12.5	7.98	212	500
3	4	Flexible	2.60	1.0	2.0	15.5	4.95	324	500
3	6	Flexible	3.40	1.0	2.1	17.5	3.30	440	500
3	10	Flexible	4.60	1.0	2.3	20.5	1.91	665	500
3	16	Flexible	5.60	1.0	2.4	22.5	1.21	894	500
3	25	Flexible	6.90	1.2	2.7	27.0	0.780	1329	500
3	35	Flexible	8.30	1.2	2.9	30.5	0.554	1781	500
3	50	Flexible	9.90	1.4	3.1	35.5	0.386	2440	500
3	70	Flexible	11.80	1.4	3.4	40.0	0.272	3287	500
3	95	Flexible	13.60	1.6	3.7	45.5	0.206	4306	500
3	120	Flexible	15.60	1.6	4.0	51.0	0.161	5482	500
3	150	Flexible	17.40	1.8	4.3	56.0	0.129	6742	500
3	185	Flexible	18.80	2.0	4.6	61.0	0.106	7907	500
3	240	Flexible	21.70	2.2	5.1	69.0	0.0801	10378	300

Table 1 (continued)

No. of cores	Size (mm ²)	Conductor type	Conductor diameter approx. (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)
4	1.5	Flexible	1.55	0.8	1.8	13.0	13.3	199	500
4	2.5	Flexible	2.00	0.8	1.9	14.0	7.98	259	500
4	4	Flexible	2.60	1.0	2.1	17.0	4.95	401	500
4	6	Flexible	3.40	1.0	2.2	19.0	3.30	549	500
4	10	Flexible	4.60	1.0	2.4	22.5	1.91	830	500
4	16	Flexible	5.60	1.0	2.5	25.0	1.21	1125	500
4	25	Flexible	6.90	1.2	2.8	29.5	0.780	1676	500
4	35	Flexible	8.30	1.2	3.0	33.5	0.554	2256	500
4	50	Flexible	9.90	1.4	3.4	39.0	0.386	3123	500
4	70	Flexible	11.80	1.4	3.7	44.5	0.272	4215	500
4	95	Flexible	13.60	1.6	4.0	51.0	0.206	5514	500
4	120	Flexible	15.60	1.6	4.4	56.5	0.161	7051	500
4	150	Flexible	17.40	1.8	4.7	62.5	0.129	8649	500
4	185	Flexible	18.80	2.0	5.0	67.5	0.106	10165	300
4	240	Flexible	21.70	2.2	5.5	76.5	0.0801	13298	300

Table 1 (continued)

No. of cores	Size (mm ²)	Conductor type	Conductor diameter approx. (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)
5	1.5	Flexible	1.55	0.8	1.9	14.0	13.3	245	500
5	2.5	Flexible	2.00	0.8	2.0	15.5	7.98	322	500
5	4	Flexible	2.60	1.0	2.2	18.5	4.95	496	500
5	6	Flexible	3.40	1.0	2.3	21.0	3.30	673	500
5	10	Flexible	4.60	1.0	2.5	24.5	1.91	1024	500
5	16	Flexible	5.60	1.0	2.7	28.0	1.21	1410	500
5	25	Flexible	6.90	1.2	3.0	33.0	0.780	2109	500
5	35	Flexible	8.30	1.2	3.3	37.5	0.554	2825	500
5	50	Flexible	9.90	1.4	3.6	43.5	0.386	3961	500
5	70	Flexible	11.80	1.4	4.0	50.0	0.272	5310	500
5	95	Flexible	13.60	1.6	4.4	57.5	0.206	6909	500