

SPECIFICATION

For

0.6/1KV-NYY

0.6/1(1.2)kV PVC Insulated

PVC Inner Sheathed PVC Outer Sheathed

Power Cable

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

BY



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MANAGER, Cable Design Section

APP. _____

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CUSTOMER

Rev.	Date	Description
0	11/11/2019	Issued specification
1	11/9/2020	Add size 1 x 10 mm ²
2	25/2/2022	Delete code (0010)
3	4/7/2024	Update specification
4	20/5/2025	Update Table 1

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) inner sheathed polyvinyl chloride (PVC) outer sheathed power cable. The cable shall be in accordance with IEC 60502-1 : 2021.
- Flame retardant test requirements per IEC 60332-1.

2. Conductor

The conductor shall be solid and non-compacted concentric stranded uncoated annealed copper conductor in accordance with IEC 60228 : 2004, Class1 and Class 2.
The direction of lay shall be left-hand (S) lay in the outermost layer.

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 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. Inner Sheath (For multi-cores only)

The inner sheath shall be polyvinyl chloride (PVC) compound applied over the cable core.
The average thickness given in Table 1.
The color of the inner sheath shall be black.

7. Outer Sheath

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


The average thickness of the outer sheath shall be not less than the value 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 outer sheath shall be black.

8. 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 "POWER CABLE"
7. Number of cores and size of conductor
8. The continuous reel length marking (in figure) shall be made on the outer sheath at every 1 meter (For single-core size $\geq 6 \text{ mm}^2$)

9. 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.

10. 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-NYY"
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

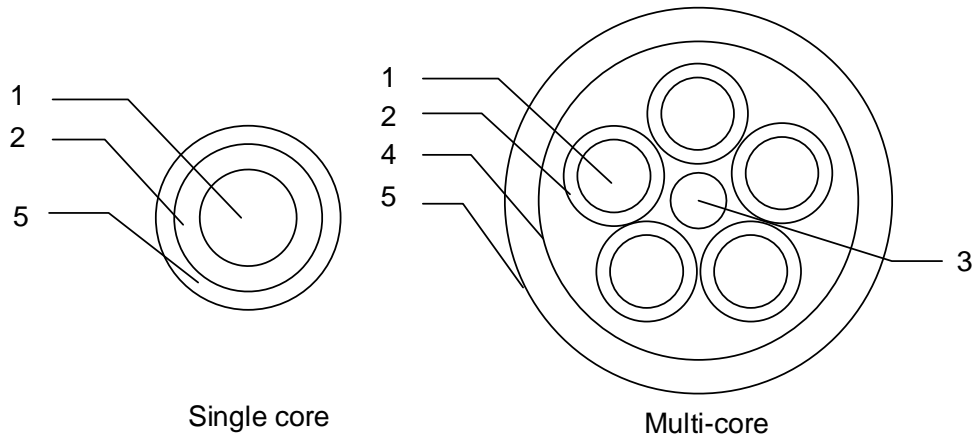
Routine tests: Tests made by the manufacturer on each manufactured length of cable to check that each length meets the specified requirements.

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	Solid and stranded annealed copper
2	Insulation	Polyvinyl chloride (PVC/A) compound
3	Filler	PVC rod
4	Inner sheath	Polyvinyl chloride (PVC) compound
5	Outer sheath	Polyvinyl chloride (PVC/ST1) compound

Application: For installation exposed, or in raceway, wet or dry location, or direct burial in ground, Maximum conductor temperature of 70 °C for normal operation and 160 °C for short circuit condition

Table 1

No. of core	Size (mm ²)	Conductor (wires/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	Solid	1.38	0.8	1.4	6.5	12.1	53	500
1	2.5	Solid	1.78	0.8	1.4	7.0	7.41	66	500
1	4	Solid	2.25	1.0	1.4	8.0	4.61	91	500
1	6	7/Non-compacted	3.12	1.0	1.4	9.0	3.08	122	500
1	10	7/Non-compacted	4.10	1.0	1.4	9.5	1.83	170	500
1	16	7/Non-compacted	5.10	1.0	1.4	10.5	1.15	237	500
1	25	7/Non-compacted	6.26	1.2	1.4	12.5	0.727	337	500
1	35	19/Non-compacted	7.65	1.2	1.4	13.5	0.524	453	500
1	50	19/Non-compacted	8.73	1.4	1.4	15.0	0.387	577	500
1	70	19/Non-compacted	10.70	1.4	1.5	17.5	0.268	824	500
1	95	19/Non-compacted	12.60	1.6	1.6	20.0	0.193	1125	500
1	120	37/Non-compacted	14.21	1.6	1.6	22.0	0.153	1382	500
1	150	37/Non-compacted	15.75	1.8	1.7	24.0	0.124	1688	500
1	185	37/Non-compacted	17.64	2.0	1.8	26.5	0.0991	2101	500
1	240	61/Non-compacted	20.25	2.2	1.9	30.0	0.0754	2718	500
1	300	61/Non-compacted	22.68	2.4	2.0	33.0	0.0601	3375	500
1	400	61/Non-compacted	25.65	2.6	2.1	36.5	0.0470	4268	500
1	500	61/Non-compacted	28.80	2.8	2.2	40.0	0.0366	5320	500
1	630	127/Non-compacted	32.76	2.8	2.4	44.5	0.0283	6758	500
1	800	127/Non-compacted	37.05	2.8	2.5	49.0	0.0221	8506	500
1	1000	127/Non-compacted	41.60	3.0	2.7	54.5	0.0176	10660	300

Table 1 (continued)

No. of cores	Size (mm ²)	Conductor (wires/type)	Conductor diameter approx. (mm)	Insulation thickness nominal (mm)	Inner sheath thickness nominal (mm)	Dia. of inner sheath approx. (mm)	Outer 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	Solid	1.38	0.8	1.2	9.5	1.8	13.5	12.1	207	500
2	2.5	Solid	1.78	0.8	1.2	10.5	1.8	14.5	7.41	246	500
2	4	Solid	2.25	1.0	1.2	12.0	1.8	16.5	4.61	328	500
2	6	7/Non-compacted	3.12	1.0	1.2	14.0	1.8	18.0	3.08	426	500
2	10	7/Non-compacted	4.10	1.0	1.2	16.0	1.8	20.0	1.83	564	500
2	16	7/Non-compacted	5.10	1.0	1.2	18.0	1.8	22.0	1.15	745	500
2	25	7/Non-compacted	6.26	1.2	1.2	21.0	1.8	25.0	0.727	1033	500
2	35	19/Non-compacted	7.65	1.2	1.2	24.0	1.8	28.0	0.524	1351	500
2	50	19/Non-compacted	8.73	1.4	1.2	27.0	1.9	31.5	0.387	1721	500
2	70	19/Non-compacted	10.70	1.4	1.2	31.0	2.1	35.5	0.268	2370	500
2	95	19/Non-compacted	12.60	1.6	1.2	36.0	2.2	41.0	0.193	3191	500
2	120	37/Non-compacted	14.21	1.6	1.3	39.5	2.3	44.5	0.153	3914	500
2	150	37/Non-compacted	15.75	1.8	1.4	43.5	2.5	49.0	0.124	4777	500
2	185	37/Non-compacted	17.64	2.0	1.5	49.0	2.7	55.0	0.0991	5950	500
2	240	61/Non-compacted	20.25	2.2	1.6	55.0	2.9	61.5	0.0754	7649	500
2	300	61/Non-compacted	22.68	2.4	1.7	61.0	3.1	68.0	0.0601	9474	300
2	400	61/Non-compacted	25.65	2.6	1.9	68.0	3.3	75.5	0.0470	11950	300

Table 1 (continued)

No. of cores	Size (mm ²)	Conductor (wires/type)	Conductor diameter approx. (mm)	Insulation thickness nominal (mm)	Inner sheath thickness nominal (mm)	Dia. of inner sheath approx. (mm)	Outer 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	Solid	1.38	0.8	1.2	10.0	1.8	14.0	12.1	230	500
3	2.5	Solid	1.78	0.8	1.2	11.0	1.8	15.0	7.41	280	500
3	4	Solid	2.25	1.0	1.2	13.0	1.8	17.0	4.61	379	500
3	6	7/Non-compacted	3.12	1.0	1.2	15.0	1.8	19.0	3.08	501	500
3	10	7/Non-compacted	4.10	1.0	1.2	16.5	1.8	21.0	1.83	674	500
3	16	7/Non-compacted	5.10	1.0	1.2	19.0	1.8	23.0	1.15	912	500
3	25	7/Non-compacted	6.26	1.2	1.2	22.5	1.8	26.5	0.727	1278	500
3	35	19/Non-compacted	7.65	1.2	1.2	25.5	1.9	29.5	0.524	1705	500
3	50	19/Non-compacted	8.73	1.4	1.2	28.5	2.0	33.0	0.387	2178	500
3	70	19/Non-compacted	10.70	1.4	1.2	32.5	2.1	37.5	0.268	3014	500
3	95	19/Non-compacted	12.60	1.6	1.3	38.5	2.3	43.5	0.193	4115	500
3	120	37/Non-compacted	14.21	1.6	1.4	42.0	2.4	47.5	0.153	5066	500
3	150	37/Non-compacted	15.75	1.8	1.4	46.0	2.6	52.0	0.124	6164	500
3	185	37/Non-compacted	17.64	2.0	1.5	52.0	2.8	58.0	0.0991	7675	500
3	240	61/Non-compacted	20.25	2.2	1.7	58.5	3.0	65.5	0.0754	9947	300
3	300	61/Non-compacted	22.68	2.4	1.8	65.0	3.2	72.0	0.0601	12311	300
3	400	61/Non-compacted	25.65	2.6	1.9	72.5	3.5	80.0	0.0470	15557	200

Table 1 (continued)

No. of cores	Size (mm ²)	Conductor (wires/type)	Conductor diameter approx. (mm)	Insulation thickness nominal (mm)	Inner sheath thickness nominal (mm)	Dia. of inner sheath approx. (mm)	Outer 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	Solid	1.38	0.8	1.2	11.0	1.8	15.0	12.1	268	500
4	2.5	Solid	1.78	0.8	1.2	12.0	1.8	16.0	7.41	330	500
4	4	Solid	2.25	1.0	1.2	14.0	1.8	18.0	4.61	453	500
4	6	7/Non-compacted	3.12	1.0	1.2	16.0	1.8	20.5	3.08	603	500
4	10	7/Non-compacted	4.10	1.0	1.2	18.5	1.8	22.5	1.83	828	500
4	16	7/Non-compacted	5.10	1.0	1.2	21.0	1.8	25.0	1.15	1127	500
4	25	7/Non-compacted	6.26	1.2	1.2	24.5	1.8	29.0	0.727	1598	500
4	35	19/Non-compacted	7.65	1.2	1.2	28.0	2.0	32.5	0.524	2164	500
4	50	19/Non-compacted	8.73	1.4	1.2	31.5	2.1	36.5	0.387	2756	500
4	70	19/Non-compacted	10.70	1.4	1.3	36.5	2.2	41.5	0.268	3865	500
4	95	19/Non-compacted	12.60	1.6	1.4	42.5	2.5	48.5	0.193	5312	500
4	120	37/Non-compacted	14.21	1.6	1.5	47.0	2.6	53.0	0.153	6534	500
4	150	37/Non-compacted	15.75	1.8	1.5	52.0	2.8	58.0	0.124	7976	500
4	185	37/Non-compacted	17.64	2.0	1.7	58.0	3.0	65.0	0.0991	9928	300
4	240	61/Non-compacted	20.25	2.2	1.8	65.5	3.2	72.5	0.0754	12834	300
4	300	61/Non-compacted	22.68	2.4	1.9	72.5	3.5	80.0	0.0601	15890	200
4	400	61/Non-compacted	25.65	2.6	2.1	81.0	3.8	89.5	0.0470	20065	200

Table 1 (continued)

No. of cores	Size (mm ²)	Conductor (wires/type)	Conductor diameter approx. (mm)	Insulation thickness nominal (mm)	Inner sheath thickness nominal (mm)	Dia. of inner sheath approx. (mm)	Outer 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	Solid	1.38	0.8	1.2	12.0	1.8	16.0	12.1	309	500
5	2.5	Solid	1.78	0.8	1.2	13.0	1.8	17.0	7.41	383	500
5	4	Solid	2.25	1.0	1.2	15.5	1.8	19.5	4.61	536	500
5	6	7/Non-compacted	3.12	1.0	1.2	18.0	1.8	22.0	3.08	720	500
5	10	7/Non-compacted	4.10	1.0	1.2	20.5	1.8	24.5	1.83	999	500
5	16	7/Non-compacted	5.10	1.0	1.2	23.0	1.8	27.0	1.15	1365	500
5	25	7/Non-compacted	6.26	1.2	1.2	27.5	1.9	32.0	0.727	1960	500
5	35	19/Non-compacted	7.65	1.2	1.2	31.5	2.1	36.0	0.524	2665	500
5	50	19/Non-compacted	8.73	1.4	1.2	35.5	2.2	40.5	0.387	3430	500
5	70	19/Non-compacted	10.70	1.4	1.3	41.0	2.4	46.0	0.268	4789	500
5	95	19/Non-compacted	12.60	1.6	1.5	48.0	2.6	54.0	0.193	6596	500
5	120	37/Non-compacted	14.21	1.6	1.6	53.0	2.8	59.5	0.153	8110	500
5	150	37/Non-compacted	15.75	1.8	1.7	58.5	3.0	65.5	0.124	9865	300
5	185	37/Non-compacted	17.64	2.0	1.8	65.0	3.2	72.5	0.0991	12211	300
5	240	61/Non-compacted	20.25	2.2	2.0	74.0	3.5	81.5	0.0754	15772	200
5	300	61/Non-compacted	22.68	2.4	2.1	82.0	3.8	90.0	0.0601	19525	200