

# SPECIFICATION

## For

## CVV

600V Copper Conductor PVC Insulated PVC Sheathed Control Cable  
(600V, Cu/PVC/PVC)

BY



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CUSTOMER

Rev.	Date	Description
0	11/10/2019	Issued specification
1	18/2/2020	Add blue color in sheath
2	10/11/2020	Correct the Table 1
3	4/5/2022	- Cancel code "0010" - Add size 2 x 0.5-1, 3 x 0.5-0.75, 4 x 0.5 and 5 x 0.5 mm <sup>2</sup>
4	23/1/2024	Add size 32 x 1.5 and 36 x 1.5 mm <sup>2</sup>
5	24/7/2024	Add size 32 x 1 mm <sup>2</sup>
6	19/9/2024	Add size 34 x 1.5 mm <sup>2</sup>
7	18/12/2024	Update Table 1 and marking on cable

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 600V copper conductor polyvinyl chloride (PVC) insulated polyvinyl chloride (PVC) sheathed control cable.

The cables shall be according to applicable specification of THAI YAZAKI Standard based on JIS C 3401 and TIS 11 Part 5-2553.

Flame retardant 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 0.5 to 4 mm<sup>2</sup> : The direction of lay shall be left-hand (S) lay.

For size 6 mm<sup>2</sup> : The direction of lay shall be right-hand (Z) lay.

## 3. Insulation

The insulation shall be polyvinyl chloride (PVC/D) compound meet the requirements of TIS 11 Part 5-2553.

The average insulation thickness shall be based on Table 3 of TIS 11-2531 and not less than the value 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 non-hygroscopic filler to give the completed cable a substantially circular cross section.

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

A suitable binder tape shall be applied helically over the cabled core.

## 5. Core Identification

The cores shall be identified by colors or by number printed on the insulation, as follows :

2-cores : blue, brown

3-cores : brown, black, grey

4-cores : blue, brown, black, grey

For  $\geq 5$ -cores :

The cores shall be identified by the arabic numerals printed longitudinally and continuously on the surface of black insulation

## 6. Sheath

The sheath shall be sunlight resistant, oil resistant and moisture resistant polyvinyl chloride (PVC/ST5) compound meet the requirements of TIS 11 Part 5-2553.

The average thickness shall be not less than the value in Table 1.

The minimum thickness shall be not fall below the value in Table 1 by more than 15% plus 0.1 mm.

The color of the sheath shall be black or blue.

## 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 "600V"

4. Type of conductor "CU"

5. Type of insulation and sheath "PVC/PVC"

6. Type of cable "CONTROL 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

Except the number of cores and size of conductor as below :

Number of core	Size (mm <sup>2</sup> )
2	0.5-1
3	0.5-0.75
4-5	0.5

## 8. Test and Properties

The cable shall be meet the requirements in Test and Inspection and Table 1, when tested in accordance with JIS C 3401, TIS 11 Part 2-2553, TIS 11 Part 5-2553, IEC 60228 : 2004 and IEC 60332-1.

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


Except black color sheath ; For longer life of cable should be avoid exposure to direct solar radiation it necessary, cover is required.

## 9. Packing

The cable shall be placed on the non-returnable wooden reels.

The reel shall be lagged 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 "CVV"
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**

1. Maximum conductor resistance, Ohm/km ..... specified in Table 1
2. AC test voltage for 1 minutes, V .....2000

### **Sample Tests**

3. Construction.....specified in Table 1

### **Type Tests**

4. Minimum insulation resistance at 70 °C, MOhm-km ..... specified in Table 1
5. Flame retardant tested according to IEC 60332-1

### Remark

Reference standard

Test item 1 refer IEC 60228:2004, Class 5

Test item 2 refer JIS C 3401

Test item 4 refer TIS 11-2531

Test item 5 refer IEC 60332-1

### **Definition concerning the tests**

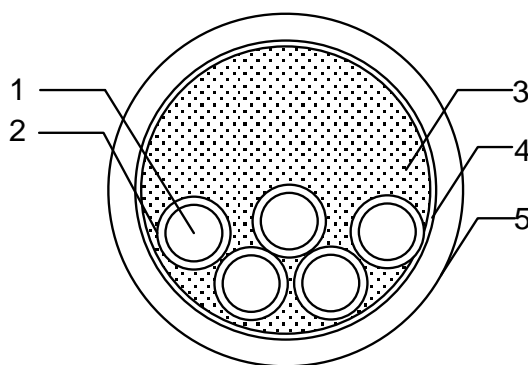
**Routine tests:** Tests made by the manufacturer on each manufactured length of cable to check that each length meets the specified requirements.

**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/D) compound
3	Filler	Non-hygroscopic
4	Binder Tape	Spun bond tape or suitable tape
5	Sheath	Polyvinyl chloride (PVC/ST5) compound

**Application:** For supervisory electrical equipment, station control circuits, outdoor, suitable installation in the dry or wet cable trenches. Maximum conductor temperature of 70 °C for normal operation and 160 °C for short circuit conditions.

**Table 1**

No. of cores	Size  (mm <sup>2</sup> )	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)	Insulation resistance at 70 °C minimum (MOhm-km)	Weight of cable approx. (kg/km)	Standard packing length  (m)
2	0.5	Flexible	0.95	0.6	0.9	7.5	39.0	0.0130	50	300
2	0.75	Flexible	1.15	0.6	1.2	8.5	26.0	0.0114	68	300
2	1	Flexible	1.30	0.6	1.2	9.0	19.5	0.0104	78	300
2	1.5	Flexible	1.55	0.6	1.2	9.5	13.3	0.0089	89	300
2	2.5	Flexible	2.00	0.7	1.2	10.5	7.98	0.0081	126	300
2	4	Flexible	2.60	0.8	1.2	12.5	4.95	0.0076	179	300
2	6	Flexible	3.40	0.8	1.4	14.5	3.30	0.0061	255	300
3	0.5	Flexible	0.95	0.6	1.2	8.5	39.0	0.0130	70	300
3	0.75	Flexible	1.15	0.6	1.2	9.0	26.0	0.0114	81	300
3	1	Flexible	1.30	0.6	1.2	9.0	19.5	0.0104	92	300
3	1.5	Flexible	1.55	0.6	1.2	10.0	13.3	0.0089	108	300
3	2.5	Flexible	2.00	0.7	1.2	11.0	7.98	0.0081	155	300
3	4	Flexible	2.60	0.8	1.2	13.0	4.95	0.0076	228	300
3	6	Flexible	3.40	0.8	1.4	15.0	3.30	0.0061	329	300
4	0.5	Flexible	0.95	0.6	1.2	9.0	39.0	0.0130	79	300
4	0.75	Flexible	1.15	0.6	1.2	9.5	26.0	0.0114	93	300
4	1	Flexible	1.30	0.6	1.2	10.0	19.5	0.0104	113	300
4	1.5	Flexible	1.55	0.6	1.2	10.5	13.3	0.0089	133	300
4	2.5	Flexible	2.00	0.7	1.2	12.0	7.98	0.0081	191	300
4	4	Flexible	2.60	0.8	1.4	14.5	4.95	0.0076	295	300
4	6	Flexible	3.40	0.8	1.4	16.5	3.30	0.0061	418	300

**Table 1 (continued)**

No. of cores	Size  (mm <sup>2</sup> )	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)	Insulation resistance at 70 °C minimum (MOhm-km)	Weight of cable approx. (kg/km)	Standard packing length  (m)
5	0.5	Flexible	0.95	0.6	1.2	10.0	39.0	0.0130	93	300
5	0.75	Flexible	1.15	0.6	1.2	10.5	26.0	0.0114	112	300
5	1	Flexible	1.30	0.6	1.2	10.5	19.5	0.0104	130	300
5	1.5	Flexible	1.55	0.6	1.2	11.5	13.3	0.0089	160	300
5	2.5	Flexible	2.00	0.7	1.2	13.0	7.98	0.0081	232	300
5	4	Flexible	2.60	0.8	1.4	16.0	4.95	0.0076	360	300
5	6	Flexible	3.40	0.8	1.4	18.0	3.30	0.0061	507	300
6	0.5	Flexible	0.95	0.6	1.2	10.5	39.0	0.0130	108	300
6	0.75	Flexible	1.15	0.6	1.2	11.0	26.0	0.0114	130	300
6	1	Flexible	1.30	0.6	1.2	11.5	19.5	0.0104	152	300
6	1.5	Flexible	1.55	0.6	1.2	12.5	13.3	0.0089	182	300
6	2.5	Flexible	2.00	0.7	1.4	14.5	7.98	0.0081	287	300
6	4	Flexible	2.60	0.8	1.4	17.0	4.95	0.0076	427	300
6	6	Flexible	3.40	0.8	1.4	19.5	3.30	0.0061	605	300
7	0.5	Flexible	0.95	0.6	1.2	10.5	39.0	0.0130	115	300
7	0.75	Flexible	1.15	0.6	1.2	11.0	26.0	0.0114	139	300
7	1	Flexible	1.30	0.6	1.2	11.5	19.5	0.0104	164	300
7	1.5	Flexible	1.55	0.6	1.2	12.5	13.3	0.0089	197	300
7	2.5	Flexible	2.00	0.7	1.4	14.5	7.98	0.0081	312	300
7	4	Flexible	2.60	0.8	1.4	17.0	4.95	0.0076	467	300
7	6	Flexible	3.40	0.8	1.4	19.5	3.30	0.0061	665	300



**Table 1 (continued)**

No. of cores	Size  (mm <sup>2</sup> )	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)	Insulation resistance at 70 °C minimum (MOhm-km)	Weight of cable approx. (kg/km)	Standard packing length  (m)
8	0.5	Flexible	0.95	0.6	1.2	11.5	39.0	0.0130	132	300
8	0.75	Flexible	1.15	0.6	1.2	12.0	26.0	0.0114	161	300
8	1	Flexible	1.30	0.6	1.2	12.5	19.5	0.0104	191	300
8	1.5	Flexible	1.55	0.6	1.2	13.5	13.3	0.0089	229	300
8	2.5	Flexible	2.00	0.7	1.4	15.5	7.98	0.0081	363	300
8	4	Flexible	2.60	0.8	1.4	18.5	4.95	0.0076	544	300
8	6	Flexible	3.40	0.8	1.4	21.0	3.30	0.0061	767	300
9	0.5	Flexible	0.95	0.6	1.2	12.0	39.0	0.0130	144	300
9	0.75	Flexible	1.15	0.6	1.2	13.0	26.0	0.0114	174	300
9	1	Flexible	1.30	0.6	1.2	13.0	19.5	0.0104	207	300
9	1.5	Flexible	1.55	0.6	1.4	14.5	13.3	0.0089	262	300
9	2.5	Flexible	2.00	0.7	1.4	17.0	7.98	0.0081	408	300
9	4	Flexible	2.60	0.8	1.4	20.0	4.95	0.0076	608	300
9	6	Flexible	3.40	0.8	1.4	23.0	3.30	0.0061	871	300
10	0.5	Flexible	0.95	0.6	1.2	13.0	39.0	0.0130	158	300
10	0.75	Flexible	1.15	0.6	1.2	13.5	26.0	0.0114	201	300
10	1	Flexible	1.30	0.6	1.4	14.5	19.5	0.0104	249	300
10	1.5	Flexible	1.55	0.6	1.4	15.5	13.3	0.0089	299	300
10	2.5	Flexible	2.00	0.7	1.4	18.0	7.98	0.0081	451	300
10	4	Flexible	2.60	0.8	1.4	21.5	4.95	0.0076	673	300
10	6	Flexible	3.40	0.8	1.8	25.5	3.30	0.0061	1017	300

**Table 1 (continued)**

No. of cores	Size  (mm <sup>2</sup> )	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)	Insulation resistance at 70 °C minimum (MΩ·km)	Weight of cable approx. (kg/km)	Standard packing length (m)
11	0.5	Flexible	0.95	0.6	1.2	13.0	39.0	0.0130	167	300
11	0.75	Flexible	1.15	0.6	1.2	13.5	26.0	0.0114	205	300
11	1	Flexible	1.30	0.6	1.4	14.5	19.5	0.0104	257	300
11	1.5	Flexible	1.55	0.6	1.4	15.5	13.3	0.0089	310	300
11	2.5	Flexible	2.00	0.7	1.4	18.0	7.98	0.0081	475	300
11	4	Flexible	2.60	0.8	1.4	21.5	4.95	0.0076	708	300
11	6	Flexible	3.40	0.8	1.8	25.5	3.30	0.0061	1070	300
12	0.5	Flexible	0.95	0.6	1.2	13.5	39.0	0.0130	180	300
12	0.75	Flexible	1.15	0.6	1.4	14.5	26.0	0.0114	232	300
12	1	Flexible	1.30	0.6	1.4	15.0	19.5	0.0104	284	300
12	1.5	Flexible	1.55	0.6	1.4	16.0	13.3	0.0089	340	300
12	2.5	Flexible	2.00	0.7	1.4	18.5	7.98	0.0081	516	300
12	4	Flexible	2.60	0.8	1.4	22.5	4.95	0.0076	781	300
12	6	Flexible	3.40	0.8	1.8	26.5	3.30	0.0061	1168	300
13	0.5	Flexible	0.95	0.6	1.4	14.5	39.0	0.0130	211	300
13	0.75	Flexible	1.15	0.6	1.4	15.0	26.0	0.0114	255	300
13	1	Flexible	1.30	0.6	1.4	15.5	19.5	0.0104	301	300
13	1.5	Flexible	1.55	0.6	1.4	17.0	13.3	0.0089	361	300
13	2.5	Flexible	2.00	0.7	1.4	19.5	7.98	0.0081	548	300
13	4	Flexible	2.60	0.8	1.4	23.5	4.95	0.0076	837	300
13	6	Flexible	3.40	0.8	1.8	28.0	3.30	0.0061	1251	300

**Table 1 (continued)**

No. of cores	Size  (mm <sup>2</sup> )	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)	Insulation resistance at 70 °C minimum (MΩ·km)	Weight of cable approx. (kg/km)	Standard packing length (m)
14	0.5	Flexible	0.95	0.6	1.4	14.5	39.0	0.0130	211	300
14	0.75	Flexible	1.15	0.6	1.4	15.0	26.0	0.0114	258	300
14	1	Flexible	1.30	0.6	1.4	15.5	19.5	0.0104	307	300
14	1.5	Flexible	1.55	0.6	1.4	17.0	13.3	0.0089	371	300
14	2.5	Flexible	2.00	0.7	1.4	19.5	7.98	0.0081	572	300
14	4	Flexible	2.60	0.8	1.4	23.5	4.95	0.0076	861	300
14	6	Flexible	3.40	0.8	1.8	28.0	3.30	0.0061	1301	300
15	0.5	Flexible	0.95	0.6	1.4	14.5	39.0	0.0130	223	300
15	0.75	Flexible	1.15	0.6	1.4	15.5	26.0	0.0114	277	300
15	1	Flexible	1.30	0.6	1.4	16.0	19.5	0.0104	329	300
15	1.5	Flexible	1.55	0.6	1.4	17.5	13.3	0.0089	398	300
15	2.5	Flexible	2.00	0.7	1.4	20.0	7.98	0.0081	616	300
15	4	Flexible	2.60	0.8	1.4	24.0	4.95	0.0076	929	300
15	6	Flexible	3.40	0.8	1.8	29.0	3.30	0.0061	1407	300
16	0.5	Flexible	0.95	0.6	1.4	15.0	39.0	0.0130	234	300
16	0.75	Flexible	1.15	0.6	1.4	16.0	26.0	0.0114	288	300
16	1	Flexible	1.30	0.6	1.4	16.5	19.5	0.0104	343	300
16	1.5	Flexible	1.55	0.6	1.4	17.5	13.3	0.0089	417	300
16	2.5	Flexible	2.00	0.7	1.4	20.5	7.98	0.0081	644	300
16	4	Flexible	2.60	0.8	1.8	25.5	4.95	0.0076	1024	300
16	6	Flexible	3.40	0.8	1.8	29.5	3.30	0.0061	1471	300

**Table 1 (continued)**

No. of cores	Size  (mm <sup>2</sup> )	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)	Insulation resistance at 70 °C minimum (MOhm-km)	Weight of cable approx. (kg/km)	Standard packing length  (m)
17	0.5	Flexible	0.95	0.6	1.4	15.5	39.0	0.0130	250	300
17	0.75	Flexible	1.15	0.6	1.4	16.5	26.0	0.0114	318	300
17	1	Flexible	1.30	0.6	1.4	17.0	19.5	0.0104	377	300
17	1.5	Flexible	1.55	0.6	1.4	18.5	13.3	0.0089	456	300
17	2.5	Flexible	2.00	0.7	1.4	21.5	7.98	0.0081	698	300
17	4	Flexible	2.60	0.8	1.8	27.0	4.95	0.0076	1113	300
17	6	Flexible	3.40	0.8	1.8	31.0	3.30	0.0061	1603	300
18	0.5	Flexible	0.95	0.6	1.4	15.5	39.0	0.0130	259	300
18	0.75	Flexible	1.15	0.6	1.4	16.5	26.0	0.0114	319	300
18	1	Flexible	1.30	0.6	1.4	17.0	19.5	0.0104	382	300
18	1.5	Flexible	1.55	0.6	1.4	18.5	13.3	0.0089	464	300
18	2.5	Flexible	2.00	0.7	1.4	21.5	7.98	0.0081	707	300
18	4	Flexible	2.60	0.8	1.8	27.0	4.95	0.0076	1130	300
18	6	Flexible	3.40	0.8	1.8	31.0	3.30	0.0061	1622	300
19	0.5	Flexible	0.95	0.6	1.4	15.5	39.0	0.0130	266	300
19	0.75	Flexible	1.15	0.6	1.4	16.5	26.0	0.0114	328	300
19	1	Flexible	1.30	0.6	1.4	17.0	19.5	0.0104	393	300
19	1.5	Flexible	1.55	0.6	1.4	18.5	13.3	0.0089	479	300
19	2.5	Flexible	2.00	0.7	1.4	21.5	7.98	0.0081	732	300
19	4	Flexible	2.60	0.8	1.8	27.0	4.95	0.0076	1169	300
19	6	Flexible	3.40	0.8	1.8	31.0	3.30	0.0061	1681	300

**Table 1 (continued)**

No. of cores	Size  (mm <sup>2</sup> )	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)	Insulation resistance at 70 °C minimum (MOhm-km)	Weight of cable approx. (kg/km)	Standard packing length  (m)
20	0.5	Flexible	0.95	0.6	1.4	16.0	39.0	0.0130	278	300
20	0.75	Flexible	1.15	0.6	1.4	17.0	26.0	0.0114	343	300
20	1	Flexible	1.30	0.6	1.4	17.5	19.5	0.0104	411	300
20	1.5	Flexible	1.55	0.6	1.4	19.0	13.3	0.0089	502	300
20	2.5	Flexible	2.00	0.7	1.4	22.0	7.98	0.0081	773	300
20	4	Flexible	2.60	0.8	1.8	27.5	4.95	0.0076	1238	300
20	6	Flexible	3.40	0.8	1.8	31.5	3.30	0.0061	1781	300
21	0.5	Flexible	0.95	0.6	1.4	16.5	39.0	0.0130	291	300
21	0.75	Flexible	1.15	0.6	1.4	17.5	26.0	0.0114	360	300
21	1	Flexible	1.30	0.6	1.4	18.0	19.5	0.0104	431	300
21	1.5	Flexible	1.55	0.6	1.4	19.5	13.3	0.0089	527	300
21	2.5	Flexible	2.00	0.7	1.4	22.5	7.98	0.0081	806	300
21	4	Flexible	2.60	0.8	1.8	28.5	4.95	0.0076	1291	300
21	6	Flexible	3.40	0.8	1.8	32.5	3.30	0.0061	1857	300
22	0.5	Flexible	0.95	0.6	1.4	17.0	39.0	0.0130	309	300
22	0.75	Flexible	1.15	0.6	1.4	18.5	26.0	0.0114	382	300
22	1	Flexible	1.30	0.6	1.4	19.0	19.5	0.0104	459	300
22	1.5	Flexible	1.55	0.6	1.4	20.5	13.3	0.0089	560	300
22	2.5	Flexible	2.00	0.7	1.4	24.0	7.98	0.0081	858	300
22	4	Flexible	2.60	0.8	1.8	30.0	4.95	0.0076	1368	300
22	6	Flexible	3.40	0.8	1.8	34.0	3.30	0.0061	1968	300

**Table 1 (continued)**

No. of cores	Size  (mm <sup>2</sup> )	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)	Insulation resistance at 70 °C minimum (MΩ·km)	Weight of cable approx. (kg/km)	Standard packing length (m)
23	0.5	Flexible	0.95	0.6	1.4	17.0	39.0	0.0130	316	300
23	0.75	Flexible	1.15	0.6	1.4	18.5	26.0	0.0114	391	300
23	1	Flexible	1.30	0.6	1.4	19.0	19.5	0.0104	470	300
23	1.5	Flexible	1.55	0.6	1.4	20.5	13.3	0.0089	575	300
23	2.5	Flexible	2.00	0.7	1.4	24.0	7.98	0.0081	885	300
23	4	Flexible	2.60	0.8	1.8	30.0	4.95	0.0076	1413	300
23	6	Flexible	3.40	0.8	1.8	34.0	3.30	0.0061	2037	300
24	0.5	Flexible	0.95	0.6	1.4	18.0	39.0	0.0130	332	300
24	0.75	Flexible	1.15	0.6	1.4	19.0	26.0	0.0114	410	300
24	1	Flexible	1.30	0.6	1.4	19.5	19.5	0.0104	491	300
24	1.5	Flexible	1.55	0.6	1.4	21.5	13.3	0.0089	603	300
24	2.5	Flexible	2.00	0.7	1.8	26.0	7.98	0.0081	975	300
24	4	Flexible	2.60	0.8	1.8	31.5	4.95	0.0076	1474	300
24	6	Flexible	3.40	0.8	2.2	37.0	3.30	0.0061	2192	300
25	0.5	Flexible	0.95	0.6	1.4	18.0	39.0	0.0130	341	300
25	0.75	Flexible	1.15	0.6	1.4	19.0	26.0	0.0114	422	300
25	1	Flexible	1.30	0.6	1.4	19.5	19.5	0.0104	506	300
25	1.5	Flexible	1.55	0.6	1.4	21.5	13.3	0.0089	622	300
25	2.5	Flexible	2.00	0.7	1.8	26.0	7.98	0.0081	1006	300
25	4	Flexible	2.60	0.8	1.8	31.5	4.95	0.0076	1523	300
25	6	Flexible	3.40	0.8	2.2	37.0	3.30	0.0061	2265	300

**Table 1 (continued)**

No. of cores	Size  (mm <sup>2</sup> )	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)	Insulation resistance at 70 °C minimum (MOhm-km)	Weight of cable approx. (kg/km)	Standard packing length  (m)
26	0.5	Flexible	0.95	0.6	1.4	18.0	39.0	0.0130	350	300
26	0.75	Flexible	1.15	0.6	1.4	19.0	26.0	0.0114	434	300
26	1	Flexible	1.30	0.6	1.4	19.5	19.5	0.0104	521	300
26	1.5	Flexible	1.55	0.6	1.4	21.5	13.3	0.0089	641	300
26	2.5	Flexible	2.00	0.7	1.8	26.0	7.98	0.0081	1037	300
26	4	Flexible	2.60	0.8	1.8	31.5	4.95	0.0076	1573	300
26	6	Flexible	3.40	0.8	2.2	37.0	3.30	0.0061	2341	300
27	0.5	Flexible	0.95	0.6	1.4	18.5	39.0	0.0130	358	300
27	0.75	Flexible	1.15	0.6	1.4	19.5	26.0	0.0114	445	300
27	1	Flexible	1.30	0.6	1.4	20.0	19.5	0.0104	536	300
27	1.5	Flexible	1.55	0.6	1.4	22.0	13.3	0.0089	658	300
27	2.5	Flexible	2.00	0.7	1.8	26.5	7.98	0.0081	1064	300
27	4	Flexible	2.60	0.8	1.8	32.0	4.95	0.0076	1617	300
27	6	Flexible	3.40	0.8	2.2	38.0	3.30	0.0061	2403	300
28	0.5	Flexible	0.95	0.6	1.4	19.0	39.0	0.0130	383	300
28	0.75	Flexible	1.15	0.6	1.4	20.0	26.0	0.0114	475	300
28	1	Flexible	1.30	0.6	1.4	21.0	19.5	0.0104	572	300
28	1.5	Flexible	1.55	0.6	1.4	23.0	13.3	0.0089	702	300
28	2.5	Flexible	2.00	0.7	1.8	27.5	7.98	0.0081	1135	300
28	4	Flexible	2.60	0.8	1.8	33.0	4.95	0.0076	1723	300
28	6	Flexible	3.40	0.8	2.2	39.0	3.30	0.0061	2558	300

**Table 1 (continued)**

No. of cores	Size  (mm <sup>2</sup> )	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)	Insulation resistance at 70 °C minimum (MΩ·km)	Weight of cable approx. (kg/km)	Standard packing length  (m)
29	0.5	Flexible	0.95	0.6	1.4	19.0	39.0	0.0130	381	300
29	0.75	Flexible	1.15	0.6	1.4	20.0	26.0	0.0114	474	300
29	1	Flexible	1.30	0.6	1.4	21.0	19.5	0.0104	571	300
29	1.5	Flexible	1.55	0.6	1.4	23.0	13.3	0.0089	702	300
29	2.5	Flexible	2.00	0.7	1.8	27.5	7.98	0.0081	1136	300
29	4	Flexible	2.60	0.8	1.8	33.0	4.95	0.0076	1729	300
29	6	Flexible	3.40	0.8	2.2	39.0	3.30	0.0061	2571	300
30	0.5	Flexible	0.95	0.6	1.4	19.0	39.0	0.0130	390	300
30	0.75	Flexible	1.15	0.6	1.4	20.0	26.0	0.0114	486	300
30	1	Flexible	1.30	0.6	1.4	21.0	19.5	0.0104	586	300
30	1.5	Flexible	1.55	0.6	1.4	23.0	13.3	0.0089	721	300
30	2.5	Flexible	2.00	0.7	1.8	27.5	7.98	0.0081	1167	300
30	4	Flexible	2.60	0.8	1.8	33.0	4.95	0.0076	1780	300
30	6	Flexible	3.40	0.8	2.2	39.0	3.30	0.0061	2647	300
31	0.5	Flexible	0.95	0.6	1.4	19.5	39.0	0.0130	416	300
31	0.75	Flexible	1.15	0.6	1.4	21.0	26.0	0.0114	518	300
31	1	Flexible	1.30	0.6	1.4	21.5	19.5	0.0104	626	300
31	1.5	Flexible	1.55	0.6	1.4	23.5	13.3	0.0089	769	300
31	2.5	Flexible	2.00	0.7	1.8	28.5	7.98	0.0081	1242	300
31	4	Flexible	2.60	0.8	1.8	34.5	4.95	0.0076	1889	300
31	6	Flexible	3.40	0.8	2.2	40.5	3.30	0.0061	2807	300



**Table 1 (continued)**

No. of cores	Size  (mm <sup>2</sup> )	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)	Insulation resistance at 70 °C minimum (MΩ·km)	Weight of cable approx. (kg/km)	Standard packing length (m)
32	0.5	Flexible	0.95	0.6	1.4	19.5	39.0	0.0130	414	300
32	0.75	Flexible	1.15	0.6	1.4	21.0	26.0	0.0114	517	300
32	1	Flexible	1.30	0.6	1.4	21.5	19.5	0.0104	625	300
32	1.5	Flexible	1.55	0.6	1.4	23.5	13.3	0.0089	768	300
32	2.5	Flexible	2.00	0.7	1.8	28.5	7.98	0.0081	1242	300
32	4	Flexible	2.60	0.8	1.8	34.5	4.95	0.0076	1896	300
32	6	Flexible	3.40	0.8	2.2	40.5	3.30	0.0061	2820	300
33	0.5	Flexible	0.95	0.6	1.4	19.5	39.0	0.0130	423	300
33	0.75	Flexible	1.15	0.6	1.4	21.0	26.0	0.0114	529	300
33	1	Flexible	1.30	0.6	1.4	21.5	19.5	0.0104	640	300
33	1.5	Flexible	1.55	0.6	1.4	23.5	13.3	0.0089	788	300
33	2.5	Flexible	2.00	0.7	1.8	28.5	7.98	0.0081	1274	300
33	4	Flexible	2.60	0.8	1.8	34.5	4.95	0.0076	1946	300
33	6	Flexible	3.40	0.8	2.2	40.5	3.30	0.0061	2896	300
34	0.5	Flexible	0.95	0.6	1.4	20.5	39.0	0.0130	450	300
34	0.75	Flexible	1.15	0.6	1.4	22.0	26.0	0.0114	561	300
34	1	Flexible	1.30	0.6	1.4	22.5	19.5	0.0104	677	300
34	1.5	Flexible	1.55	0.6	1.4	24.5	13.3	0.0089	834	300
34	2.5	Flexible	2.00	0.7	1.8	29.5	7.98	0.0081	1348	300
34	4	Flexible	2.60	0.8	2.2	36.5	4.95	0.0076	2118	300
34	6	Flexible	3.40	0.8	2.2	42.5	3.30	0.0061	3053	300

**Table 1 (continued)**

No. of cores	Size  (mm <sup>2</sup> )	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)	Insulation resistance at 70 °C minimum (MOhm-km)	Weight of cable approx. (kg/km)	Standard packing length (m)
35	0.5	Flexible	0.95	0.6	1.4	20.5	39.0	0.0130	448	300
35	0.75	Flexible	1.15	0.6	1.4	22.0	26.0	0.0114	559	300
35	1	Flexible	1.30	0.6	1.4	22.5	19.5	0.0104	676	300
35	1.5	Flexible	1.55	0.6	1.4	24.5	13.3	0.0089	833	300
35	2.5	Flexible	2.00	0.7	1.8	29.5	7.98	0.0081	1349	300
35	4	Flexible	2.60	0.8	2.2	36.5	4.95	0.0076	2125	300
35	6	Flexible	3.40	0.8	2.2	42.5	3.30	0.0061	3067	300
36	0.5	Flexible	0.95	0.6	1.4	20.5	39.0	0.0130	457	300
36	0.75	Flexible	1.15	0.6	1.4	22.0	26.0	0.0114	571	300
36	1	Flexible	1.30	0.6	1.4	22.5	19.5	0.0104	691	300
36	1.5	Flexible	1.55	0.6	1.4	24.5	13.3	0.0089	853	300
36	2.5	Flexible	2.00	0.7	1.8	29.5	7.98	0.0081	1380	300
36	4	Flexible	2.60	0.8	2.2	36.5	4.95	0.0076	2175	300
36	6	Flexible	3.40	0.8	2.2	42.5	3.30	0.0061	3142	300
37	0.5	Flexible	0.95	0.6	1.4	20.5	39.0	0.0130	464	300
37	0.75	Flexible	1.15	0.6	1.4	22.0	26.0	0.0114	581	300
37	1	Flexible	1.30	0.6	1.4	22.5	19.5	0.0104	705	300
37	1.5	Flexible	1.55	0.6	1.4	24.5	13.3	0.0089	869	300
37	2.5	Flexible	2.00	0.7	1.8	29.5	7.98	0.0081	1407	300
37	4	Flexible	2.60	0.8	2.2	36.5	4.95	0.0076	2218	300
37	6	Flexible	3.40	0.8	2.2	42.5	3.30	0.0061	3206	300

**Table 1 (continued)**

No. of cores	Size  (mm <sup>2</sup> )	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)	Insulation resistance at 70 °C minimum (MΩ·km)	Weight of cable approx. (kg/km)	Standard packing length (m)
38	0.5	Flexible	0.95	0.6	1.4	21.0	39.0	0.0130	482	300
38	0.75	Flexible	1.15	0.6	1.4	22.5	26.0	0.0114	603	300
38	1	Flexible	1.30	0.6	1.4	23.5	19.5	0.0104	730	300
38	1.5	Flexible	1.55	0.6	1.8	26.5	13.3	0.0089	952	300
38	2.5	Flexible	2.00	0.7	1.8	30.5	7.98	0.0081	1458	300
38	4	Flexible	2.60	0.8	2.2	38.0	4.95	0.0076	2299	300
38	6	Flexible	3.40	0.8	2.2	44.0	3.30	0.0061	3321	300
39	0.5	Flexible	0.95	0.6	1.4	21.0	39.0	0.0130	491	300
39	0.75	Flexible	1.15	0.6	1.4	22.5	26.0	0.0114	615	300
39	1	Flexible	1.30	0.6	1.4	23.5	19.5	0.0104	745	300
39	1.5	Flexible	1.55	0.6	1.8	26.5	13.3	0.0089	971	300
39	2.5	Flexible	2.00	0.7	1.8	30.5	7.98	0.0081	1489	300
39	4	Flexible	2.60	0.8	2.2	38.0	4.95	0.0076	2347	300
39	6	Flexible	3.40	0.8	2.2	44.0	3.30	0.0061	3394	300
40	0.5	Flexible	0.95	0.6	1.4	21.0	39.0	0.0130	498	300
40	0.75	Flexible	1.15	0.6	1.4	22.5	26.0	0.0114	625	300
40	1	Flexible	1.30	0.6	1.4	23.5	19.5	0.0104	757	300
40	1.5	Flexible	1.55	0.6	1.8	26.5	13.3	0.0089	986	300
40	2.5	Flexible	2.00	0.7	1.8	30.5	7.98	0.0081	1514	300
40	4	Flexible	2.60	0.8	2.2	38.0	4.95	0.0076	2393	300
40	6	Flexible	3.40	0.8	2.2	44.0	3.30	0.0061	3461	300

**Table 1 (continued)**

No. of cores	Size  (mm <sup>2</sup> )	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)	Insulation resistance at 70 °C minimum (MOhm-km)	Weight of cable approx. (kg/km)	Standard packing length  (m)
41	0.5	Flexible	0.95	0.6	1.4	22.0	39.0	0.0130	517	300
41	0.75	Flexible	1.15	0.6	1.4	23.5	26.0	0.0114	647	300
41	1	Flexible	1.30	0.6	1.8	25.0	19.5	0.0104	835	300
41	1.5	Flexible	1.55	0.6	1.8	27.5	13.3	0.0089	1022	300
41	2.5	Flexible	2.00	0.7	1.8	32.0	7.98	0.0081	1568	300
41	4	Flexible	2.60	0.8	2.2	39.5	4.95	0.0076	2471	300
41	6	Flexible	3.40	0.8	2.2	45.5	3.30	0.0061	3575	300
42	0.5	Flexible	0.95	0.6	1.4	22.0	39.0	0.0130	526	300
42	0.75	Flexible	1.15	0.6	1.4	23.5	26.0	0.0114	660	300
42	1	Flexible	1.30	0.6	1.8	25.0	19.5	0.0104	850	300
42	1.5	Flexible	1.55	0.6	1.8	27.5	13.3	0.0089	1041	300
42	2.5	Flexible	2.00	0.7	1.8	32.0	7.98	0.0081	1599	300
42	4	Flexible	2.60	0.8	2.2	39.5	4.95	0.0076	2522	300
42	6	Flexible	3.40	0.8	2.2	45.5	3.30	0.0061	3650	300
43	0.5	Flexible	0.95	0.6	1.4	22.0	39.0	0.0130	533	300
43	0.75	Flexible	1.15	0.6	1.4	23.5	26.0	0.0114	669	300
43	1	Flexible	1.30	0.6	1.8	25.0	19.5	0.0104	862	300
43	1.5	Flexible	1.55	0.6	1.8	27.5	13.3	0.0089	1057	300
43	2.5	Flexible	2.00	0.7	1.8	32.0	7.98	0.0081	1627	300
43	4	Flexible	2.60	0.8	2.2	39.5	4.95	0.0076	2538	300
43	6	Flexible	3.40	0.8	2.2	45.5	3.30	0.0061	3721	300

**Table 1 (continued)**

No. of cores	Size  (mm <sup>2</sup> )	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)	Insulation resistance at 70 °C minimum (MOhm-km)	Weight of cable approx. (kg/km)	Standard packing length (m)
44	0.5	Flexible	0.95	0.6	1.4	22.5	39.0	0.0130	549	300
44	0.75	Flexible	1.15	0.6	1.4	24.0	26.0	0.0114	688	300
44	1	Flexible	1.30	0.6	1.8	26.0	19.5	0.0104	884	300
44	1.5	Flexible	1.55	0.6	1.8	28.5	13.3	0.0089	1086	300
44	2.5	Flexible	2.00	0.7	1.8	33.0	7.98	0.0081	1668	300
44	4	Flexible	2.60	0.8	2.2	41.0	4.95	0.0076	2632	300
44	6	Flexible	3.40	0.8	2.6	48.0	3.30	0.0061	3898	300
45	0.5	Flexible	0.95	0.6	1.4	22.5	39.0	0.0130	558	300
45	0.75	Flexible	1.15	0.6	1.4	24.0	26.0	0.0114	700	300
45	1	Flexible	1.30	0.6	1.8	26.0	19.5	0.0104	899	300
45	1.5	Flexible	1.55	0.6	1.8	28.5	13.3	0.0089	1105	300
45	2.5	Flexible	2.00	0.7	1.8	33.0	7.98	0.0081	1700	300
45	4	Flexible	2.60	0.8	2.2	41.0	4.95	0.0076	2682	300
45	6	Flexible	3.40	0.8	2.6	48.0	3.30	0.0061	3973	300
46	0.5	Flexible	0.95	0.6	1.4	22.5	39.0	0.0130	567	300
46	0.75	Flexible	1.15	0.6	1.4	24.0	26.0	0.0114	712	300
46	1	Flexible	1.30	0.6	1.8	26.0	19.5	0.0104	915	300
46	1.5	Flexible	1.55	0.6	1.8	28.5	13.3	0.0089	1124	300
46	2.5	Flexible	2.00	0.7	1.8	33.0	7.98	0.0081	1731	300
46	4	Flexible	2.60	0.8	2.2	41.0	4.95	0.0076	2733	300
46	6	Flexible	3.40	0.8	2.6	48.0	3.30	0.0061	4048	300

**Table 1 (continued)**

No. of cores	Size  (mm <sup>2</sup> )	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)	Insulation resistance at 70 °C minimum (MOhm-km)	Weight of cable approx. (kg/km)	Standard packing length (m)
47	0.5	Flexible	0.95	0.6	1.4	22.5	39.0	0.0130	577	300
47	0.75	Flexible	1.15	0.6	1.4	24.0	26.0	0.0114	724	300
47	1	Flexible	1.30	0.6	1.8	26.0	19.5	0.0104	930	300
47	1.5	Flexible	1.55	0.6	1.8	28.5	13.3	0.0089	1144	300
47	2.5	Flexible	2.00	0.7	1.8	33.0	7.98	0.0081	1763	300
47	4	Flexible	2.60	0.8	2.2	41.0	4.95	0.0076	2783	300
47	6	Flexible	3.40	0.8	2.6	48.0	3.30	0.0061	4124	300
48	0.5	Flexible	0.95	0.6	1.4	23.0	39.0	0.0130	584	300
48	0.75	Flexible	1.15	0.6	1.4	24.5	26.0	0.0114	735	300
48	1	Flexible	1.30	0.6	1.8	26.5	19.5	0.0104	946	300
48	1.5	Flexible	1.55	0.6	1.8	29.0	13.3	0.0089	1162	300
48	2.5	Flexible	2.00	0.7	1.8	33.5	7.98	0.0081	1790	300
48	4	Flexible	2.60	0.8	2.2	42.0	4.95	0.0076	2827	300
48	6	Flexible	3.40	0.8	2.6	49.0	3.30	0.0061	4188	300