

S P E C I F I C A T I O N

Class 2 EP rubber insulated chloroprene rubber sheathed flexible cable
2 P N C T

Date of issue 2 0 2 1 . 4 . 1

M I T S U B O S H I C O . , L T D .

Responsible person of framing

No. RN-090000C	S P E C I F I C A T I O N	MITSUBOSHI CO., LTD.
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Name of Manufacture
Class 2 EP rubber insulated chloroprene rubber sheathed flexible cable

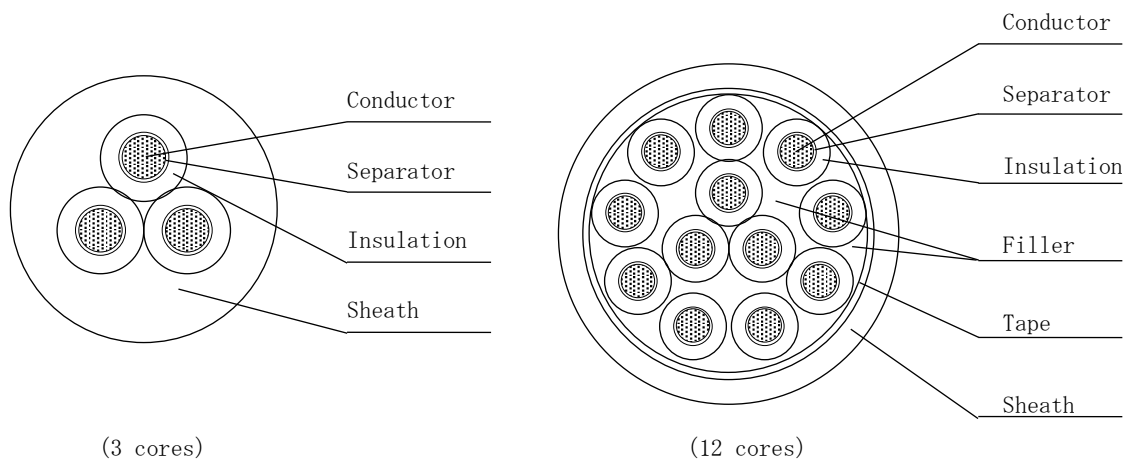
Applicable Standards
JIS C 3005, JIS C 3152, JIS C 3327
Electrical appliance and material safety law, Site electrical facilities technical standard

1. Scope

This Specification covers quality level of 2 P N C T
used in power supply circuit of portable electrical machinery and apparatus not higher than 600V.

2. Construction and materials

(Construction)



- | | | |
|-----|-------------------------|---|
| 2.1 | Conductor | A stranded wire is composed of the tinned annealed copper wire specified in JIS C 3152. |
| 2.2 | Separator | A suitable separator is applied on the conductor. |
| 2.3 | Insulation | Ethylene propylene rubber compound
The average thickness of the insulation is not less than 90% of the value in Attached Tables. The minimum thickness of the insulation is not less than 80% of the value in Attached Tables. |
| 2.4 | Identification of cores | Identification of cores are made by the color of insulation. (Attached Tables 2) |
| 2.5 | Stranding of cores | As the need arises, cores are stranded with a suitable filler. |
| 2.6 | Sheath | Chloroprene rubber compound
The average thickness of sheath is not less than 90% of the value in Attached Tables. The minimum thickness of sheath is not less than 85% of the value in Attached Tables. |

3. Characteristics

Item	Characteristics	Test method
Appearance	The surface be smooth and there is not a flaw in case of use.	JIS C 3005 4.1
Construction	It depends on the Attached Table with structure and size.	JIS C 3005 4.3
Conductor resistance	Not more than the value in Attached Table.	JIS C 3005 4.4
Dielectric withstand voltage (in water)	Capable of withstanding 3000V for 1min.	JIS C 3005 4.6 a)
Insulation resistance	Not less than the value in Attached Table.	JIS C 3005 4.7.1 a)

4. Marking on cable

The following information is continuously marked on cable.

- ① The symbol of the cable
- ② Nominal sectional area
- ③ Manufacture's name or abbreviation

Example: 2 P N C T 4 × 2 mm²

★ ★ <PS>E MITSUBOSHI 2PNCT 2mm²

Example: 2 P N C T 1 0 × 2 mm²

★ ★ MITSUBOSHI -2PNCT-

5. Length and packaging

According to the Attached Table.

6. Marking on package

The following information is marked on package.

- ① The symbol of the cable and nominal sectional area
- ② Length
- ③ Year of manufacture or lot No.
- ④ Manufacture's name

⑤  J E T (only apply to Electrical Appliance and Material Safety Law)

Attached Table 1 : Construction, Size, Weight, and electric characteristic

0. 7 5mm²

Number of core	Conductors		Insulation		Sheath	Overall diameter		Approx. mass (kg/km)	Conductor resistance 20°C (Ω/km)	Insulation resistance 20°C (MΩ·km)	Standard Unit length And packaging
	Composition	Outside diameter (approx.) (mm)	Thickness (approx.) (mm)	Outside diameter (approx.) (mm)	Thickness (approx.) (mm)	Standard (mm)	Maximum (mm)				
2	(TA) 30/0.18	1.1	0.8	2.8	1.7	9.0	9.4	105	26.6	500	200m Bundle
3					1.7	9.4	9.8	120			
4					1.8	10.4	10.8	150			
5					1.8	11.2	11.8	175			
6					1.9	12.5	13.1	215			
7					1.9	13.4	14.0	240			
8					2.0	14.4	15.0	275			
9					2.1	15.5	16.3	295	26.8		400m Drum
10					2.1	16.4	17.2	330			
12					2.1	16.1	16.9	335			
14					2.1	16.9	17.7	375			
15					2.2	17.9	18.8	410			
16					2.2	17.9	18.8	425			
18					2.3	18.9	19.8	475			
20					2.3	19.8	20.8	520			
24					2.4	21.7	22.8	625			
30					2.5	23.3	24.5	730			

1. 2 5mm²

Number of core	Conductors		Insulation		Sheath	Overall diameter		Approx. mass (kg/km)	Conductor resistance 20°C (Ω/km)	Insulation resistance 20°C (MΩ·km)	Standard Unit length And packaging
	Composition	Outside diameter (approx.) (mm)	Thickness (approx.) (mm)	Outside diameter (approx.) (mm)	Thickness (approx.) (mm)	Standard (mm)	Maximum (mm)				
2	(TA) 50/0.18	1.5	0.8	3.2	1.7	9.8	10.2	130	16.0	500	200m Bundle
3					1.8	10.5	10.9	155			
4					1.8	11.3	11.7	185			
5					1.9	12.4	13.0	225			
6					1.9	13.7	14.3	270			
7					2.0	14.9	15.5	310			
8					2.1	16.1	16.8	360			
9					2.2	17.2	18.1	395	16.1		400m Drum
10					2.2	18.3	19.2	435			
12					2.2	18.0	18.9	450			
14					2.3	19.0	20.0	510			
15					2.3	19.9	20.9	545			
16					2.3	19.9	20.9	570			
18					2.4	21.1	22.2	635			
20					2.5	22.3	23.4	695			
24					2.6	24.4	25.6	835			
30					2.7	26.2	27.5	980			

2 mm²

Number of core	Conductors		Insulation		Sheath	Overall diameter		Approx. mass (kg/km)	Conductor resistance 20°C (Ω/km)	Insulation resistance 20°C (MΩ·km)	Standard Unit length And packaging
	Composition	Outside diameter (approx.) (mm)	Thickness (approx.) (mm)	Outside diameter (approx.) (mm)	Thickness (approx.) (mm)	Standard (mm)	Maximum (mm)				
2	(TA) 37/0.26	1.8	0.8	3.5	1.8	10.6	11.0	160	10.2	500	200 m Bundle
3					1.8	11.1	11.5	185			
4					1.9	12.2	12.6	230			
5					1.9	13.3	13.9	275			
6					2.0	14.9	15.5	340			
7					2.1	16.2	16.9	395			
8					2.1	17.2	17.9	440			
9					2.2	18.4	19.3	480	10.3		400 m Drum
10					2.3	19.7	20.7	540			
12					2.3	19.4	20.4	565			
14					2.3	20.3	21.3	635			
15					2.4	21.6	22.7	685			
16					2.4	21.6	22.7	720			
18					2.5	22.8	23.9	805			
20					2.6	24.1	25.3	895			
24					2.7	26.4	27.7	1,070			
30					2.8	28.3	29.7	1,270			

3. 5 mm²

Number of core	Conductors		Insulation		Sheath	Overall diameter		Approx. mass (kg/km)	Conductor resistance 20°C (Ω/km)	Insulation resistance 20°C (MΩ·km)	Standard Unit length And packaging
	Composition	Outside diameter (approx.) (mm)	Thickness (approx.) (mm)	Outside diameter (approx.) (mm)	Thickness (approx.) (mm)	Standard (mm)	Maximum (mm)				
2	(TA) 45/0.32	2.5	0.8	4.2	1.9	12.2	12.6	225	5.54	400	200 m Bundle
3					1.9	12.9	13.3	270			
4					2.0	14.1	14.5	340			
5					2.1	15.5	16.2	415			
6					2.1	17.2	17.9	500			
7					2.2	18.7	19.4	580			
8					2.3	20.2	20.9	660			
9					2.4	21.6	22.7	710			
10					2.5	23.1	24.3	800			
12					2.5	22.8	23.9	845			
14					2.6	24.0	25.2	970			
15					2.6	24.6	25.8	1,030			
16					2.6	25.2	26.5	1,090			
18					2.7	26.7	28.0	1,220			
20					2.8	28.2	29.6	1,350			
24					3.0	31.2	32.8	1,630			
30					3.1	33.4	35.1	1,930	200 m Drum		

5. 5mm²

Number of core	Conductors		Insulation		Sheath	Overall diameter		Approx. mass (kg/km)	Conductor resistance 20°C (Ω/km)	Insulation resistance 20°C (MΩ·km)	Standard Unit length And packaging	
	Composition	Outside diameter (approx.) (mm)	Thickness (approx.) (mm)	Outside diameter (approx.) (mm)	Thickness (approx.) (mm)	Standard (mm)	Maximum (mm)					
2	(TA) 70/0.32	3.1	1.0	5.2	2.0	14.4	14.8	325	3.56	400	200 m Bundle	
3					2.0	15.2	15.6	390				
4					2.1	16.8	17.3	495			200 m Drum	
5					2.2	18.4	19.1	600				
6					2.3	20.7	21.4	730				
7					2.4	22.6	23.3	850				
8					2.5	24.4	25.1	975	3.60		400 m Drum	
9					2.7	26.1	27.4	1,060				
10					2.8	27.9	29.3	1,200				
12					2.8	27.5	28.9	1,260				
16					2.9	30.5	32.0	1,620				200 m Drum
20					3.2	34.3	36.0	2,040				

8mm²

Number of core	Conductors		Insulation		Sheath	Overall diameter		Approx. mass (kg/km)	Conductor resistance 20°C (Ω/km)	Insulation resistance 20°C (MΩ·km)	Standard Unit length And packaging
	Composition	Outside diameter (approx.) (mm)	Thickness (approx.) (mm)	Outside diameter (approx.) (mm)	Thickness (approx.) (mm)	Standard (mm)	Maximum (mm)				
2	(TA) 50/0.45	3.7	1.0	5.8	2.1	15.8	16.3	405	2.52	400	200 m Bundle
3					2.1	16.7	17.2	495			
4					2.2	18.4	18.9	625			
5					2.3	20.8	21.5	790			
6					2.5	23.0	23.7	945			
7					2.6	25.0	25.8	1,100			
8					2.7	27.0	27.8	1,230	2.55		200 m Drum
9					2.8	28.6	30.0	1,350			
10					3.0	30.9	32.4	1,530			
12					2.9	30.2	31.7	1,620			

14mm²

Number of core	Conductors		Insulation		Sheath	Overall diameter		Approx. mass (kg/km)	Conductor resistance 20°C (Ω/km)	Insulation resistance 20°C (MΩ·km)	Standard Unit length And packaging
	Composition	Outside diameter (approx.) (mm)	Thickness (approx.) (mm)	Outside diameter (approx.) (mm)	Thickness (approx.) (mm)	Standard (mm)	Maximum (mm)				
2	(TA) 88/0.45	4.9	1.0	7.0	2.2	18.4	18.9	595	1.43	300	200 m Drum
3					2.3	19.7	20.2	750			
4					2.4	21.7	22.2	955			
5					2.6	24.7	25.5	1,210			
6					2.7	27.1	27.9	1,400			

22 mm²

Number of core	Conductors		Insulation		Sheath	Overall diameter		Approx. mass (kg/km)	Conductor resistance 20°C (Ω/km)	Insulation resistance 20°C (MΩ·km)	Standard Unit length And packaging
	Composition	Outside diameter (approx.) (mm)	Thickness (approx.) (mm)	Outside diameter (approx.) (mm)	Thickness (approx.) (mm)	Standard (mm)	Maximum (mm)				
2	(TA) 7/20/0.45	6.8	1.2	9.4	2.6	24.0	24.6	1,000	0.919	300	200m Drum
3					2.7	25.7	26.3	1,260			
4					2.8	28.3	28.9	1,570			
5					3.0	31.4	32.2	1,930			
6					3.2	34.6	35.5	2,300			

30 mm²

Number of core	Conductors		Insulation		Sheath	Overall diameter		Approx. mass (kg/km)	Conductor resistance 20°C (Ω/km)	Insulation resistance 20°C (MΩ·km)	Standard Unit length And packaging
	Composition	Outside diameter (approx.) (mm)	Thickness (approx.) (mm)	Outside diameter (approx.) (mm)	Thickness (approx.) (mm)	Standard (mm)	Maximum (mm)				
2	(TA) 7/27/0.45	7.9	1.2	10.5	2.7	26.4	27.0	1,250	0.681	300	200m Drum
3					2.8	28.2	28.8	1,580			
4					3.0	31.3	31.9	1,990			
5					3.2	34.8	35.7	2,440			
6					3.4	38.3	39.2	2,900			

38 mm²

Number of core	Conductors		Insulation		Sheath	Overall diameter		Approx. mass (kg/km)	Conductor resistance 20°C (Ω/km)	Insulation resistance 20°C (MΩ·km)	Standard Unit length And packaging
	Composition	Outside diameter (approx.) (mm)	Thickness (approx.) (mm)	Outside diameter (approx.) (mm)	Thickness (approx.) (mm)	Standard (mm)	Maximum (mm)				
2	(TA) 7/34/0.45	8.8	1.2	11.4	2.8	28.4	29.0	1,500	0.541	200	200m Drum
3					2.9	30.4	31.0	1,910			
4					3.1	33.7	34.4	2,410			
5					3.4	37.6	38.5	2,960			
6					3.6	41.4	42.4	3,500			

50 mm²

Number of core	Conductors		Insulation		Sheath	Overall diameter		Approx. mass (kg/km)	Conductor resistance 20°C (Ω/km)	Insulation resistance 20°C (MΩ·km)	Standard Unit length And packaging
	Composition	Outside diameter (approx.) (mm)	Thickness (approx.) (mm)	Outside diameter (approx.) (mm)	Thickness (approx.) (mm)	Standard (mm)	Maximum (mm)				
2	(TA) 19/16/0.45	10.1	1.5	13.3	3.1	32.8	33.5	1,940	0.423	200	200m Drum
3					3.2	35.1	35.8	2,450			
4					3.4	38.9	39.6	3,090			

60 mm²

Number of core	Conductors		Insulation		Sheath	Overall diameter		Approx. mass (kg/km)	Conductor resistance 20°C (Ω/km)	Insulation resistance 20°C (MΩ·km)	Standard Unit length And packaging
	Composition	Outside diameter (approx.) (mm)	Thickness (approx.) (mm)	Outside diameter (approx.) (mm)	Thickness (approx.) (mm)	Standard (mm)	Maximum (mm)				
2	(TA) 19/20/0.45	11.3	1.5	14.5	3.2	35.4	36.1	2,310	0.339	200	200m Drum
3					3.4	38.0	38.7	2,950			
4					3.6	42.2	43.0	3,740			

8 0 mm²

Number of core	Conductors		Insulation		Sheath	Overall diameter		Approx. mass (kg/km)	Conductor resistance 20°C (Ω/km)	Insulation resistance 20°C (MQ·km)	Standard Unit length And packaging
	Composition	Outside diameter (approx.) (mm)	Thickness (approx.) (mm)	Outside diameter (approx.) (mm)	Thickness (approx.) (mm)	Standard (mm)	Maximum (mm)				
2	(TA) 19/27/0.45	13.1	2.0	17.3	3.6	41.8	42.6	3,190	0.250	300	200m Drum
3					3.8	44.9	45.7	4,060			
4					4.1	50.0	50.9	5,150			

1 0 0 mm²

Number of core	Conductors		Insulation		Sheath	Overall diameter		Approx. mass (kg/km)	Conductor resistance 20°C (Ω/km)	Insulation resistance 20°C (MQ·km)	Standard Unit length And packaging
	Composition	Outside diameter (approx.) (mm)	Thickness (approx.) (mm)	Outside diameter (approx.) (mm)	Thickness (approx.) (mm)	Standard (mm)	Maximum (mm)				
2	(TA) 19/34/0.45	14.7	2.0	18.9	3.8	45.4	46.2	3,850	0.199	200	200m Drum
3					4.0	48.7	49.5	4,920			
4					4.3	54.2	55.1	6,240			

1 2 5 mm²

Number of core	Conductors		Insulation		Sheath	Overall diameter		Approx. mass (kg/km)	Conductor resistance 20°C (Ω/km)	Insulation resistance 20°C (MQ·km)	Standard Unit length And packaging
	Composition	Outside diameter (approx.) (mm)	Thickness (approx.) (mm)	Outside diameter (approx.) (mm)	Thickness (approx.) (mm)	Standard (mm)	Maximum (mm)				
2	(TA) 19/42/0.45	16.3	2.0	20.5	4.0	49.0	49.8	4,590	0.161	200	200m Drum
3					4.2	52.6	53.5	5,900			

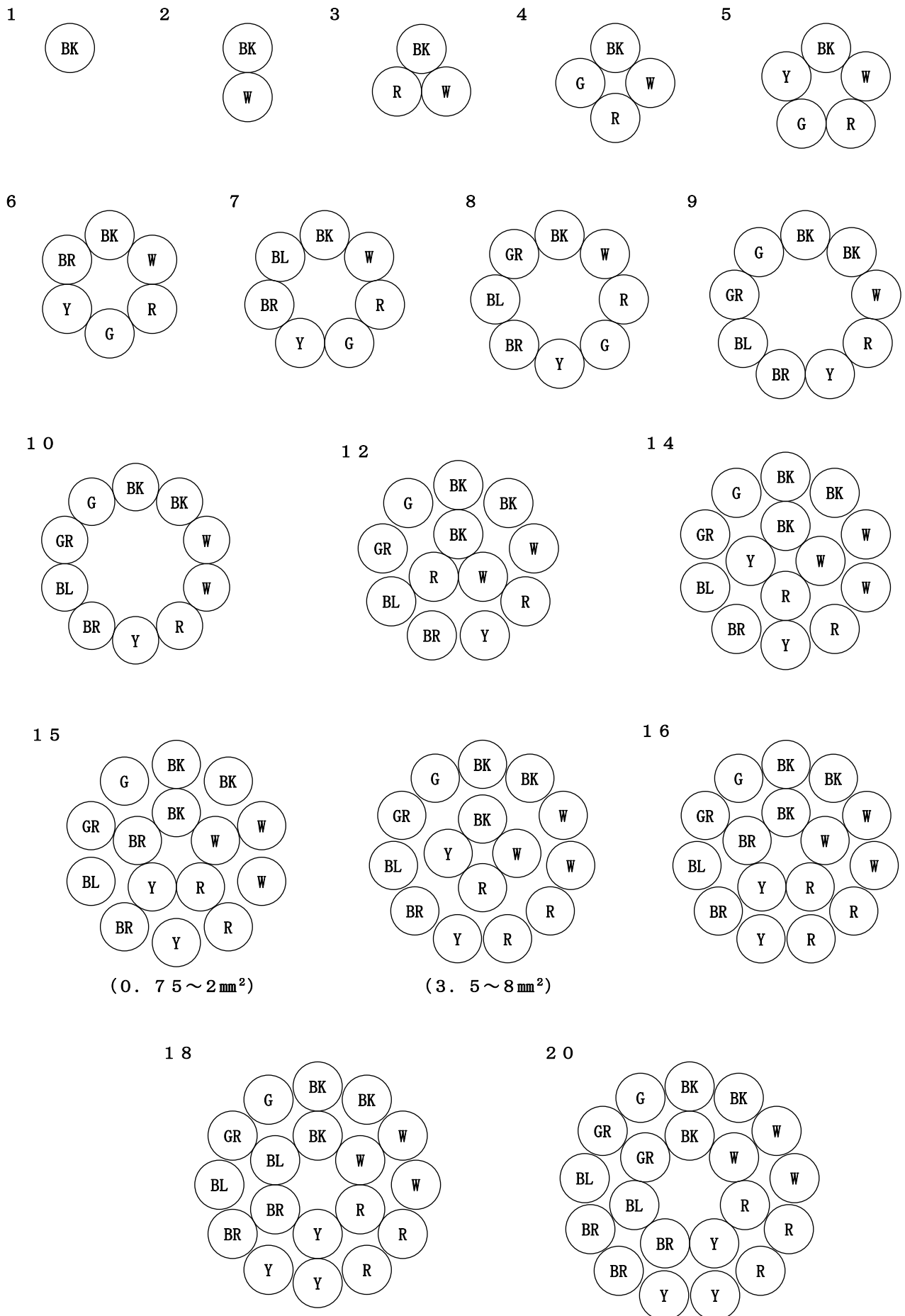
1 5 0 mm²

Number of core	Conductors		Insulation		Sheath	Overall diameter		Approx. mass (kg/km)	Conductor resistance 20°C (Ω/km)	Insulation resistance 20°C (MQ·km)	Standard Unit length And packaging
	Composition	Outside diameter (approx.) (mm)	Thickness (approx.) (mm)	Outside diameter (approx.) (mm)	Thickness (approx.) (mm)	Standard (mm)	Maximum (mm)				
2	(TA) 27/34/0.45	17.6	2.0	21.8	4.2	52.0	52.9	5,200	0.140	200	200m Drum
3					4.4	55.8	56.7	6,680			

Cable of single core

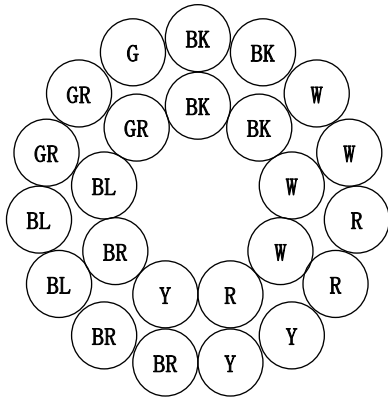
Size [mm ²]	Conductors		Insulation		Sheath	Overall diameter		Approx. mass (kg/km)	Conductor resistance 20°C (Ω/km)	Insulation resistance 20°C (MΩ·km)	Standard Unit length And packaging
	Composition	Outside diameter (approx.) (mm)	Thickness (approx.) (mm)	Outside diameter (approx.) (mm)	Thickness (approx.) (mm)	Standard (mm)	Maximum (mm)				
0.75	(TA) 30/0.18	1.1	0.8	2.8	1.5	5.8	6.2	45	25.8	500	200m Bundle
1.25	(TA) 50/0.18	1.5	0.8	3.2	1.5	6.2	6.6	55	15.5	500	
2	(TA) 37/0.26	1.8	0.8	3.5	1.5	6.5	6.9	65	9.91	500	
3.5	(TA) 45/0.32	2.5	0.8	4.2	1.6	7.4	7.8	90	5.38	400	
5.5	(TA) 70/0.32	3.1	1.0	5.2	1.6	8.4	8.8	125	3.46	400	
8	(TA) 50/0.45	3.7	1.0	5.8	1.7	9.2	9.6	155	2.45	400	
14	(TA) 88/0.45	4.9	1.0	7.0	1.8	10.6	11.0	230	1.39	300	
22	(TA) 7/20/0.45	6.8	1.2	9.4	1.9	13.2	13.6	365	0.892	300	200m Drum
30	(TA) 7/27/0.45	7.9	1.2	10.5	2.0	14.5	14.9	460	0.661	300	
38	(TA) 7/34/0.45	8.8	1.2	11.4	2.1	15.6	16.1	555	0.525	200	
50	(TA) 19/16/0.45	10.1	1.5	13.3	2.2	17.7	18.2	700	0.411	200	
60	(TA) 19/20/0.45	11.3	1.5	14.5	2.3	19.1	19.6	840	0.329	200	
80	(TA) 19/27/0.45	13.1	2.0	17.3	2.5	22.3	22.8	1,140	0.243	300	
100	(TA) 19/34/0.45	14.7	2.0	18.9	2.6	24.1	24.7	1,390	0.193	200	
125	(TA) 19/42/0.45	16.3	2.0	20.5	2.7	25.9	26.5	1,660	0.156	200	
150	(TA) 27/34/0.45	17.6	2.0	21.8	2.8	27.4	28.0	1,880	0.136	200	
200	(TA) 37/34/0.45	20.6	2.5	25.8	3.0	31.8	32.4	2,570	0.0993	200	
250	(TA) 37/42/0.45	22.9	2.5	28.1	3.2	34.5	35.2	3,110	0.0803	200	
325	(TA) 37/55/0.45	26.2	2.5	31.4	3.4	38.2	38.9	3,950	0.0614	200	

Attached Table 2 : Identification of cores (1)

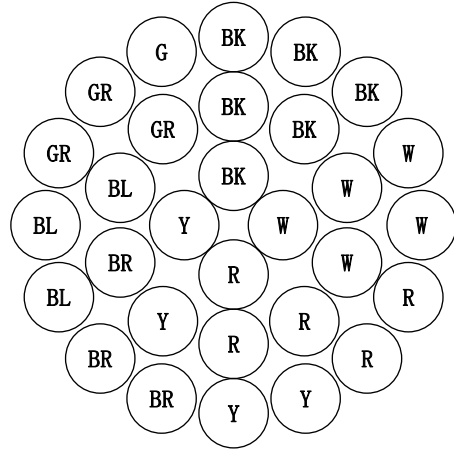


Attached Table 2 : Identification of cores (2)

2 4



3 0



~Symbol of COLOR~

BK : Black

W : White

R : Red

G : Green

Y : Yellow

BR : Brown

BL : Blue

GR : Gray