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

Polyvinyl chloride insulated flexible cords【Soft type】
S－V C T F

M I T S U B O S H I　C O .,　L T D .

M W

No. PN－０４０００６	SPECIFICATION	MITSUBOSHI CO., LTD.

Name of Manufacture

Polyvinyl chloride insulated flexible cords【Soft type】

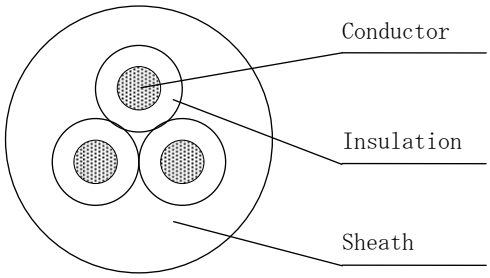
Applicable Standards
JIS C 3005, JIS C 3102, JIS C 3306
Electrical appliance and material safety law, Technical standards for electrical installations

1. Scope

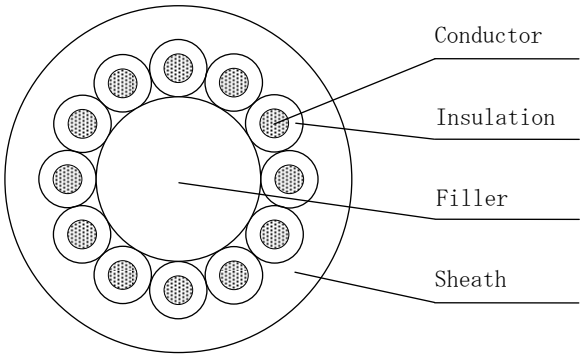
This Specification covers quality level of Ｓ－ＶＣＴＦ
used in power supply circuit of portable electrical machinery and apparatus not higher than 300V.
However, 0.3, 0.5mm^2 is limited to the use of less than 100V.

2. Construction and Materials

(Construction)



(3 cores)



(12 cores)

2.1	Conductor	A stranded wire is composed of the annealed copper wire specified in JIS C 3102.
2.2	Insulation	Polyvinyl chloride 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.
2.3	Identification of cores	Identification of cores are made by the color of insulation.
2.4	Stranding of cores	As the need arises, cores are stranded with a suitable filler.
2.5	Sheath	Polyvinyl chloride compound (Soft type) 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 70% 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 (at 20℃)			Not more than the value in Attached Table.	JIS C 3005 4.4
Dielectric withstand voltage (in water)			Capable of withstanding 1000V for 1min.	JIS C 3005 4.6 a)
Insulation resistance (at 20℃)			Not less than the value in Attached Table.	JIS C 3005 4.7.1 a)
※) Tensile properties	Insulation	Tensile strength	Not less than 10MPa	JIS C 3005 4.16
		Elongation	Not less than 100%	
	Sheath	Tensile strength	Not less than 10MPa	
		Elongation	Not less than 120%	
※) Thermal aging	Insulation	Tensile strength	Not less than 85% of the value before heating	JIS C 3005 4.17
		Elongation	Not less than 80% of the value before heating	
	Sheath	Tensile strength	Not less than 85% of the value before heating	
		Elongation	Not less than 80% of the value before heating	
※) Heat shock			No crack or flaw shall appear on the surface.	JIS C 3005 4.19.1
※) Cold bend			No crack or flaw shall appear on the surface.	JIS C 3005 4.20.1
※) Heat deformation			Thickness reduction shall not exceed 50%	JIS C 3005 4.23
※) Flame retardance			Flame shall go out naturally within 60 seconds	JIS C 3005 4.26.2 b)

※) The quality characteristic to enforce inspection regularly with an in-house standard.

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: 【0.3～0.5mm²】

⁂ MITSUBOSHI Size 【Year of manufacture】

【0.75～5.5mm²】

<PS>E JET MITSUBOSHI ⁂ ｽﾀｰｿﾌﾄ VCTF Size 【Year of manufacture】

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

② Number of cores and nominal sectional area

③ Length

④ Month and year of manufacture or Lot No.

⑤ Manufacture's name

⑥ PS E ＪＥＴ (only apply to Electrical Appliance and Material Safety Law)

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

0．5㎟

Number of core	Conductors		Insulation		Sheath	Overall diameter (approx.) (mm)	Approx. mass (kg/km)	Conductor resistance 20℃ (Ω/km)	Insulation resistance 20℃ (MΩ･km)	Standard Unit length And packaging
	Composition	Outside diameter (approx.) (mm)	Thickness (approx.) (mm)	Outside diameter (approx.) (mm)	Thickness (approx.) (mm)					
2	(A) 20/0.18	0.9	0.6	2.1	1.0	6.2	50	37.8	5	100m Bundle
3					1.0	6.5	60			
4					1.0	7.1	70			

0．75㎟

Number of core	Conductors		Insulation		Sheath	Overall diameter (approx.) (mm)	Approx. mass (kg/km)	Conductor resistance 20℃ (Ω/km)	Insulation resistance 20℃ (MΩ･km)	Standard Unit length And packaging
	Composition	Outside diameter (approx.) (mm)	Thickness (approx.) (mm)	Outside diameter (approx.) (mm)	Thickness (approx.) (mm)					
2	(A) 30/0.18	1.1	0.6	2.3	1.0	6.6	60	25.1	5	100m Bundle
3					1.0	7.0	70			
4					1.0	7.6	85			
5					1.0	8.2	100	25.6		
6					1.0	8.9	120			
7					1.0	9.6	140			
8					1.0	10.3	160			
10					1.0	11.8	205			
12					1.0	13.2	255			
16					1.0	13.0	265			
20					1.1	14.7	330			

1．25㎟

Number of core	Conductors		Insulation		Sheath	Overall diameter (approx.) (mm)	Approx. mass (kg/km)	Conductor resistance 20℃ (Ω/km)	Insulation resistance 20℃ (MΩ･km)	Standard Unit length And packaging
	Composition	Outside diameter (approx.) (mm)	Thickness (approx.) (mm)	Outside diameter (approx.) (mm)	Thickness (approx.) (mm)					
2	(A) 50/0.18	1.5	0.6	2.7	1.0	7.4	80	15.1	5	100m Bundle
3					1.0	7.8	95			
4					1.0	8.5	115			
5					1.0	9.3	140	15.4		
6					1.0	10.1	165			
7					1.0	10.9	195			
8					1.0	11.7	220			
10					1.1	13.6	290			
12					1.1	15.3	360			
16					1.1	15.1	380			
20					1.2	17.0	475			

2㎟

Number of core	Conductors		Insulation		Sheath	Overall diameter (approx.) (㎜)	Approx. mass (kg/km)	Conductor resistance 20℃ (Ω/km)	Insulation resistance 20℃ (MΩ･km)	Standard Unit length And packaging
	Composition	Outside diameter (approx.) (㎜)	Thickness (approx.) (㎜)	Outside diameter (approx.) (㎜)	Thickness (approx.) (㎜)					
2	(A) 37/0.26	1.8	0.6	3.0	1.0	8.0	100	9.79	5	100m Bundle
3					1.0	8.5	120			
4					1.0	9.2	150			
5					1.0	10.1	180	9.98		
6					1.0	11.0	215			
7					1.0	11.9	255			
8					1.0	12.8	290			
10					1.1	14.9	380			
12					1.2	17.0	485			
16					1.2	16.8	520			
20					1.2	18.6	640			

3．5㎟

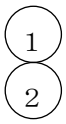
Number of core	Conductors		Insulation		Sheath	Overall diameter (approx.) (㎜)	Approx. mass (kg/km)	Conductor resistance 20℃ (Ω/km)	Insulation resistance 20℃ (MΩ･km)	Standard Unit length And packaging
	Composition	Outside diameter (approx.) (㎜)	Thickness (approx.) (㎜)	Outside diameter (approx.) (㎜)	Thickness (approx.) (㎜)					
2	(A) 45/0.32	2.5	0.6	3.7	1.0	9.4	145	5.24	5	100m Bundle
3					1.0	10.0	185			
4					1.0	10.9	230			

5．5㎟

Number of core	Conductors		Insulation		Sheath	Overall diameter (approx.) (㎜)	Approx. mass (kg/km)	Conductor resistance 20℃ (Ω/km)	Insulation resistance 20℃ (MΩ･km)	Standard Unit length And packaging
	Composition	Outside diameter (approx.) (㎜)	Thickness (approx.) (㎜)	Outside diameter (approx.) (㎜)	Thickness (approx.) (㎜)					
2	(A) 70/0.32	3.1	0.8	4.7	1.0	11.4	220	3.37	5	100m Bundle
3					1.0	12.1	280			
4					1.1	13.5	355			

Identification of cores

2



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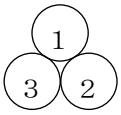

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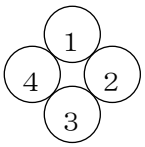

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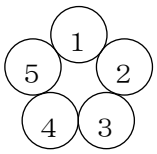

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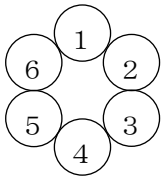

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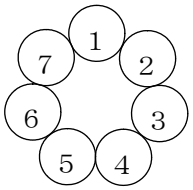

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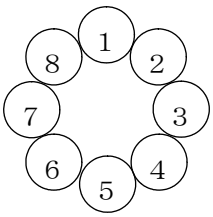

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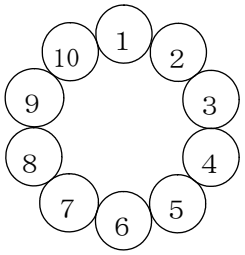

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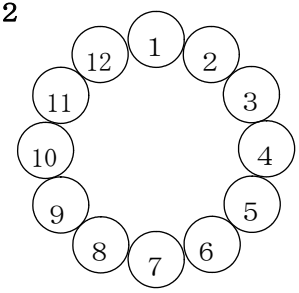

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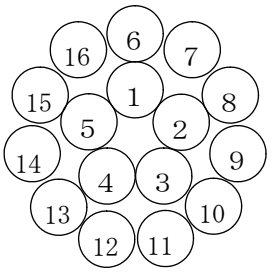

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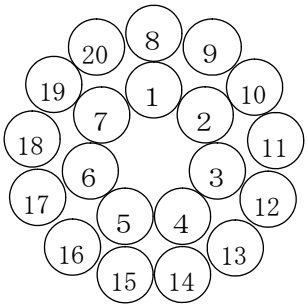

Number of core	1	2	3	4	5	6	7	8	9	10
Core color or Line color/ core color	Black	White	Red	Green	Yellow	Brown	Blue	Gray	Orange	Light Green
Number of core	11	12	13	14	15	16	17	18	19	20
Core color or Line color/ core color	Pink	Light Blue	Black/ White	Black/ Red	Black/ Green	Black/ Yellow	Black/ Brown	Black/ Blue	Black/ Gray	Black/ Orange