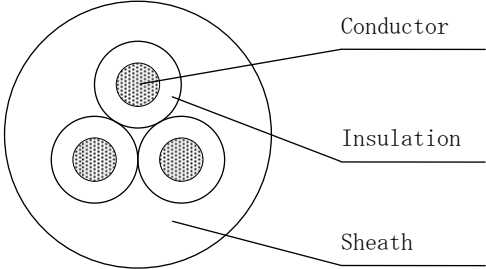
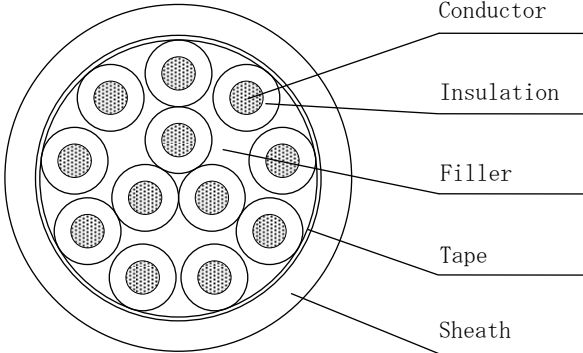


S P E C I F I C A T I O N

Polyvinyl chloride insulated flexible cords
VCTF

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

No. RN-030000	S P E C I F I C A T I O N	MITSUBOSHI CO., LTD.
Name of Manufacture Polyvinyl chloride insulated flexible cords		
Applicable Standards JIS C 3005, JIS C 3102, JIS C 3306 Electrical appliance and material safety law, Technical standards for electrical installations		
<p>1. Scope</p> <p>This Specification covers quality level of <u>VCTF</u> used in power supply circuit of portable electrical machinery and apparatus not higher than 300V. However, 0.3, 0.5mm² is limited to the use of less than 100V.</p> <p>2. Construction, Materials</p> <p>(Construction)</p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div data-bbox="288 869 775 1249" style="text-align: center;">  <p>(3 cores)</p> </div> <div data-bbox="852 837 1437 1249" style="text-align: center;">  <p>(12 cores)</p> </div> </div> <p>2.1 Conductor A stranded wire is composed of the annealed copper wire specified in JIS C 3102.</p> <p>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.</p> <p>2.3 Identification of cores Identification of cores are made by the color of insulation.</p> <p>2.4 Stranding of cores As the need arises, cores are stranded with a suitable filler.</p> <p>2.5 Sheath Polyvinyl 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 70% of the value in Attached Tables.</p>		

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°C)		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°C)		Not less than the value in Attached Table.	JIS C 3005 4.7.1 a)
※ Tensile properties	Insulation	Tensile strength	Not less than 10MPa
		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
		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 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
- ⑤  J E T (only apply to Electrical Appliance and Material Safety Law)

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

0. 3mm²

Number of core	Conductors		Insulation		Sheath	Overall diameter (approx.) (mm)	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)					
2	(A) 12/0.18	0.7	0.4	1.5	1.0	5.0	35	62.7	5	100m Bundle
3					1.0	5.2	40			
4					1.0	5.6	45			

0. 5mm²

Number of core	Conductors		Insulation		Sheath	Overall diameter (approx.) (mm)	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)					
2	(A) 20/0.18	0.9	0.6	2.1	1.0	6.2	55	37.8	5	100m Bundle
3					1.0	6.5	60			
4					1.0	7.1	75			

0. 75mm²

Number of core	Conductors		Insulation		Sheath	Overall diameter (approx.) (mm)	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)					
2	(A) 30/0.18	1.1	0.6	2.3	1.0	6.6	65	25.1	5	100m Bundle
3					1.0	7.0	75			
4					1.0	7.6	90			
5					1.0	8.2	105			
6					1.0	8.9	125			
7					1.0	8.9	130			
8					1.0	9.9	140			
10					1.0	11.5	175			
12					1.0	11.9	195			
16					1.0	13.1	250			
20					1.1	14.4	315			
30					1.2	17.5	445			

1. 25 mm²

Number of core	Conductors		Insulation		Sheath	Overall diameter (approx.) (mm)	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)					
2	(A) 50/0.18	1.5	0.6	2.7	1.0	7.4	85	15.1	5	100m Bundle
3					1.0	7.8	100			
4					1.0	8.5	120			
5					1.0	9.3	140			
6					1.0	10.1	170			
7					1.0	10.1	180			
8					1.0	11.2	195			
10					1.0	13.1	240			
12					1.1	13.7	280			
16					1.1	15.2	360			
20					1.2	16.7	450			
30					1.3	20.2	645			

2 mm²

Number of core	Conductors		Insulation		Sheath	Overall diameter (approx.) (mm)	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)					
2	(A) 37/0.26	1.8	0.6	3.0	1.0	8.0	105	9.79	5	100m Bundle
3					1.0	8.5	125			
4					1.0	9.2	155			
5					1.0	10.1	185			
6					1.0	11.0	220			
7					1.0	11.0	235			
8					1.0	12.2	255			
10					1.1	14.5	325			
12					1.1	15.0	375			
16					1.2	16.8	490			
20					1.2	18.2	600			
30					1.4	22.3	880			

3. 5 mm²

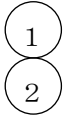
Number of core	Conductors		Insulation		Sheath	Overall diameter (approx.) (mm)	Approx. mass (kg/km)	Conductor resistance 20°C (Ω/km)	Insulation resistance 20°C (MΩ·km)	Standard Unit length And packaging
	Composition	Outside diameter (approx.) (mm)	Thickness (approx.) (mm)	Outside diameter (approx.) (mm)	Thickness (approx.) (mm)					
2	(A) 45/0.32	2.5	0.6	3.7	1.0	9.4	155	5.24	5	100m Bundle
3					1.0	10.0	195			
4					1.0	10.9	240			

5. 5 mm²

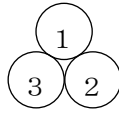
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	Composition	Outside diameter (approx.) (mm)	Thickness (approx.) (mm)	Outside diameter (approx.) (mm)	Thickness (approx.) (mm)					
2	(A) 70/0.32	3.1	0.8	4.7	1.0	11.4	230	3.37	5	100m Bundle
3					1.0	12.1	290			
4					1.1	13.5	365			

Identification of cores

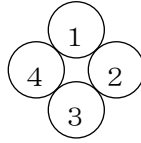
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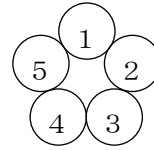
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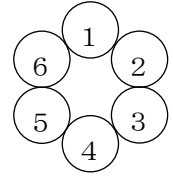
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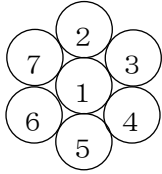
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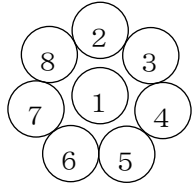
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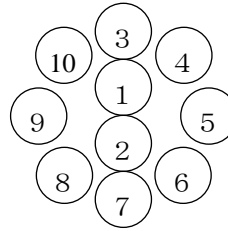
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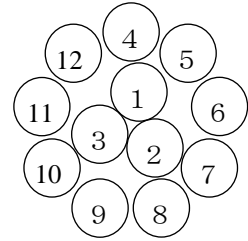
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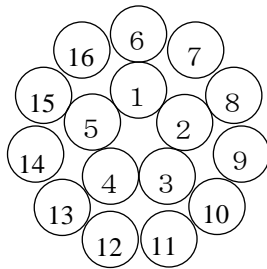
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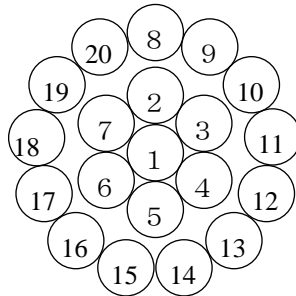
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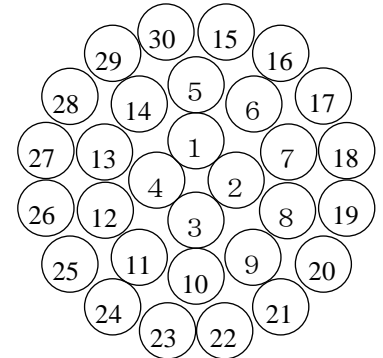
16



20



30



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
Number of core	21	22	23	24	25	26	27	28	29	30
Core color or line color/ core color	Black/ Light Green	Black/ Pink	Black/ Light Blue	Red/ Black	Red/ White	Red/ Green	Red/ Yellow	Red/ Brown	Red/ Blue	Red/ Gray