




# SPECIFICATION



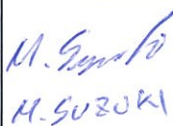
## FOR

### LEAD FREE MULTI CORE CABLE

[ P/N: CO-VV (SPV1212) nx0.3SQ(7/0.26TA) LF]

(n ~ number of core)

Prepared	Checked	Approved
		

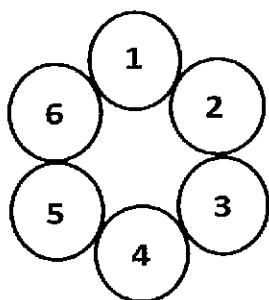
No.	Date	Rev.	Contents	Prepared by	Reviewed by	Approved by
1	Oct. 19 <sup>th</sup> , 2017	Initial Issue	Initial Issue	De.HT	Cuong.MN	Suzuki.M
2	Jan. 23 <sup>rd</sup> , 2018	01	Change color core from Orange to Brown	 Ha Thi Di	 N.M. Cuong	 M. Suzuki

**1. Scope**

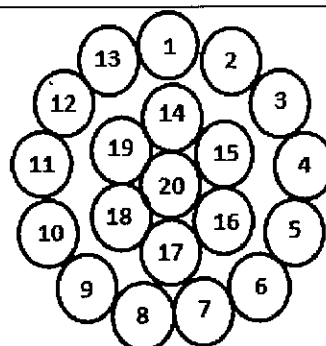
This specification covers lead free PVC insulated and jacketed multi core cables.

**2. Construction and Material**

Description			Specification	
			6x0.3SQ	20x0.3SQ
Conductor	Material	-	Tinned annealed copper wire (TA) stranded	
	Size	SQ	0.3	
	Stranding	No./mm	7/0.26	
	Diameter (Nom.)	mm	0.78	
Insulation	Material	-	Heat resistant, Lead free PVC	
	Thickness (Nom.)	mm	0.25	
	Diameter (Nom.)	mm	1.28	
	Color & Identification	-	See table 1	
Cabling	Binder tape	-	Paper tape	
	Diameter (Nom.)	mm	3.9	6.7
Jacket	Material	-	Heat resistance, Lead free PVC	
	Thickness (Nom)	mm	0.6	0.81
	Diameter (Nom.)	mm	$5.1 \pm 0.5$	$8.3 \pm 0.5$
	Color (color code)	-	Black (BK)	
Packing	Length standard	m	200	100
	Type	-	Coil	



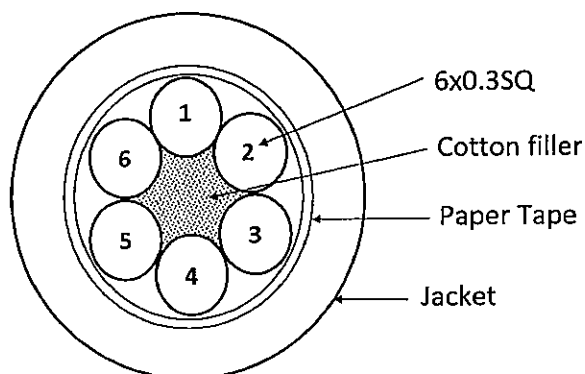
Cabling 6 core



Cabling 20 core

**Fig. 1 Lay out of cabling**

Example: 6x0.3SQ



(\*) Suitable fillers may be applied to make a circular cross section.

**Fig. 2 Cross-section of cable**

**3. Marking**

The completed cable shall be printed following marking format on the surface throughout entire length by regular interval

*Example:*

**HITACHI** Manufacture year

*Note: Making format subject to change without notice according with safety revision*

**4. Properties**

No.	Test Item	Test Detail	Standard	Test		
				Routine	Type	Approval
1	Dielectric strength	AC 500V/1min No breakdown	Specification	Yes	X	Yes
2	Conductor resistance	Max. 54.4 $\Omega$ /km at 20°C	Specification	X	Yes	Yes
3	Insulation resistance	Min 10 M $\Omega$ -km (20°C)	Specification	X	Yes	Yes

**5. Packing****5.1 Packing**

Each product shall be packed in coil for transportation, and unit length: see table in the clause

**2. Construction and material****5.2 Marking on the Package**

Each package shall be tagged to show the following information

- |                     |                           |
|---------------------|---------------------------|
| (1) Production name | (5) Lot No.               |
| (2) Conductor size  | (6) Length                |
| (3) No of conductor | (7) Date of manufacturing |
| (4) Color           | (8) Name of manufacturer  |

**6. Order form**

*Example:*

CO - VV (SPV1212) 6 x 0.3SQ(7/0.26TA) LF BK C200  
 1 2 3 4 5 6 7 8

1	CO	For Computer
2	VV	PVC insulation and jacket
3	SPV1212	Specification No. SPV-02-1212
4	6	No of core
5	0.3SQ(7/0.26TA)	Conductor size & stranding
6	LF	Lead Free
7	BK	Jacket Color (Black)
8	C200	Packing style and unit length, "C" for coil in m

**7. Control of Chemical Substances**

Control of Chemical Substances in this product shall be controlled as below.

**7.1 6 substances of RoHS Directive****(1) Applicable standard and statute**

(a) Directive 2011/65/EU of the European Parliament and of the Council on the Restriction of the use of certain Hazardous Substances in electrical and electronic equipment)

(b) 2005/618/EC COMMISSION DECISION of 18 August 2005

(amending Directive 2011/65/EU of the European Parliament and of the Council for the purpose of establishing the maximum concentration values for certain hazardous substances in electrical and electronic equipment)

(c) JIS C 0950:2008(The marking for presence of the specific chemical substances for electrical and electronic equipment)

**(2) The maximum concentration values for certain hazardous substances.**

	Chemical Substances	Concentration value	
		Resin, a paint, and ink	Others
1	Cadmium and Cadmium Compounds	Less than 5ppm	Less than 75ppm
2	Hexavalent Chromium Compounds	Less than 1000ppm	
3	Lead and Lead Compounds	Less than 100ppm	Less than 1000ppm
4	Mercury and Mercury Compounds	Less than 1000ppm	
5	Polybrominated Biphenyls(PBBs)	Less than 1000ppm	
6	Polybrominated Diphenyl ethers(PBDEs)	Less than 1000ppm	
7	Bis (2-ethylhexyl) phthalate (DEHP) * 1 (CAS No.117-81-7)	Intentional use prohibited * 2	
8	Benzyl butyl phthalate (BBP) * 1 (CAS No. 85-68-7)	Intentional use prohibited * 2	
9	Dibutyl phthalate (DBP)(CAS No. 84-74-2) * 1	Intentional use prohibited * 2	
10	Diisobutyl phthalate (DIBP) * 1 (CAS No. 84-69-5)	Intentional use prohibited * 2	

\*1 : COMMISSION DELEGATED DIRECTIVE (EU) 2015/863

\*2 : Provisional until the guarantee of material (up to 1000ppm) is obtained

7.2 Any substances of Hitachi Metals, Limited Cable Material Company's voluntarily controlled chemical substances.

(1) Applicable Standard



Cable Materials Company Green Procurement Standard; document No. HKS01 (Latest version), Level A Prohibited Substances Group List.

(2) Maximum concentration value.

Intentional use shall be prohibited and maximum concentration value limited according to each substance. 6 substances of the clause 7.1 shall be controlled as 7.1 (2).

HKS01 Perform the adapted management to quote laws and regulations of HKS01 (Latest version).

**Table 1: Color and Identification for Core**

Core No.	Color	Dot mark	Dot mark color	Core No.	Color	Dot mark	Dot mark color
1	Brown	 (1 short dot)	Black	11	Brown	 (2 short dots)	Black
2	Brown		Red	12	Brown		Red
3	Yellow		Black	13	Yellow		Black
4	Yellow		Red	14	Yellow		Red
5	Light Green		Black	15	Light Green		Black
6	Light Green		Red	16	Light Green		Red
7	Gray		Black	17	Gray		Black
8	Gray		Red	18	Gray		Red
9	White		Black	19	White		Black
10	White		Red	20	White		Red