




# SPECIFICATION

## FOR

LEAD FREE MULTI CORE CABLE

[ P/N: CO-VV (SPV1465) 40x0.3SQ(7/0.26TA) LF]

Prepared	Checked	Approved
		

## Revision record

No.	Date	Rev.	Contents	Prepared by	Reviewed by	Approved by
1	Dec. 07 <sup>th</sup> , 2018	Initial Issue	Initial Issue	 Ha Thi Di	 N.M. Cuong	 M. SUZUKI

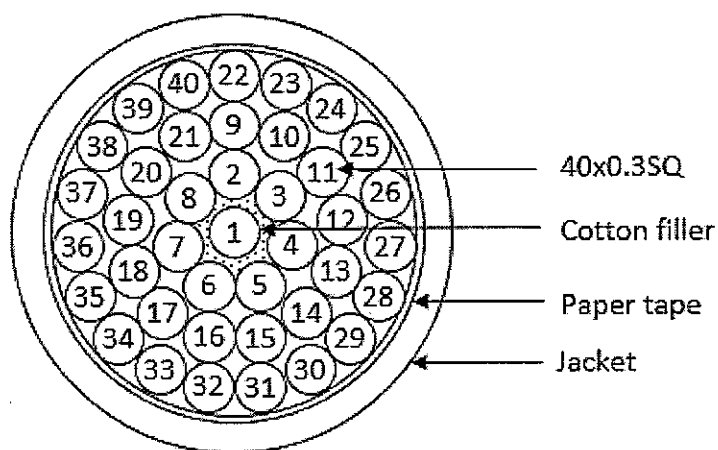
## 1. Scope

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

Rating: 80°C, 30V

## 2. Construction and Material

Description			Specification
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	9.5
Jacket	Material	-	Heat resistance, Lead free PVC
	Thickness (Nom)	mm	0.81
	Diameter (Nom.)	mm	11.1 ± 0.5
	Color (color code)	-	Black (BK)



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

**Fig. 1 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	A.C. 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
4	Current rating <sup>(*)</sup>	2.7 A	Specification	-	-	-

(\*) Current ampacity at ambient temp.40°C, max.conductor temp.80°C, in case of single cable in air

#### 5. Packing

##### 5.1 Packing

Each product shall be packed in coil for transportation, and unit length: 100m

##### 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 (SPV1465) 40 x 0.3SQ(7/0.26TA) LF BK C100  
 1 2 3 4 5 6 7 8

1	CO	For Computer
2	VV	PVC insulation and jacket
3	SPV1465	Specification No. SPV-02-1465
4	40	No of core
5	0.3SQ(7/0.26TA)	Conductor size & stranding
6	LF	Lead Free
7	BK	Jacket Color (Black)
8	C100	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.

10 substances of RoHS Directive

(1) Applicable standard and statute

- 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)
- 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)
- 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)	Less than 1000ppm	
8	Benzyl butyl phthalate (BBP)*1 (CAS No. 85-68-7)	Less than 1000ppm	
9	Dibutyl phthalate (DBP)(CAS No. 84-74-2)* 1	Less than 1000ppm	
10	Diisobutyl phthalate (DIBP) *1 (CAS No. 84-69-5)	Less than 1000ppm	

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

**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	21	Brown	■■■■ (3 short dot)	Black
2	Brown		Red	22	Brown		Red
3	Yellow		Black	23	Yellow		Black
4	Yellow		Red	24	Yellow		Red
5	Light Green		Black	25	Light Green		Black
6	Light Green		Red	26	Light Green		Red
7	Gray		Black	27	Gray		Black
8	Gray		Red	28	Gray		Red
9	White		Black	29	White		Black
10	White		Red	30	White		Red
11	Brown	■■■ (2 short dots)	Black	31	Brown	■■■■■ (4 short dots)	Black
12	Brown		Red	32	Brown		Red
13	Yellow		Black	33	Yellow		Black
14	Yellow		Red	34	Yellow		Red
15	Light Green		Black	35	Light Green		Black
16	Light Green		Red	36	Light Green		Red
17	Gray		Black	37	Gray		Black
18	Gray		Red	38	Gray		Red
19	White		Black	39	White		Black
20	White		Red	40	White		Red