

SPECIFICATION

FOR

UL RECOGNIZED IRRADIATED
CROSS-LINKED FLAME-RETARDANT
LEAD FREE PE INSULATED WIRES

[P/N ; 3633 LF]

Quantity

Your Ref. No.

Our Ref. No.

Signed by

Y. Kunugi

Yoshiro Kunugi

Manager

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Engineering Dept.

Hitachi Cable, Ltd.

1. Scope

This specification covers UL recognized irradiated cross-linked flame-retardant lead free PE insulated wires used for internal wiring of appliances and electronic equipment.

USE : Internal Wiring of Appliances and Electronic Equipment.

2. Applicable standards

- (1)UL subject 758 [Latest version]
UL Style 3633
- (2)UL Standard 814 [Latest version]
- (3)Japan Electrical Appliance and Material Safety Law (DENAN-Law) [Latest version]

3. Construction

3.1 Conductor

- (1)Material ; Tinned annealed copper
- (2)AWG size ; 28~22
- (3)Stranding ; shown in the Table 1 and 2.
- (4)Diameter ; shown in the Table 1 and 2.

3.2 Insulation

- (1)Material ; Irradiated cross-linked flame-retardant lead free PE
- (2)Thickness ; min. average ; 0.31mm(12mils)
min. at any point ; 0.26mm(10mils)

3.3 Covering (Applicable for double insulation type only)

- (1)Material ; Irradiated cross-linked flame-retardant lead free PE
- (2)Thickness ; min. at any point ; 0.26mm(10mils)
- (3)Color ; Red, White, Blue, Gray, Yellow, Brown, Black ,Orange, Green, Violet

4. Properties

The properties of the wires are shown below and in the Table1 and 2.

- (1)Rating temperature ; 150°C
- (2)Rating voltage ; A.C. 3kV
- (3)Flame retardant ; VW-1 (UL), -F-(DENAN-Law)
- (4)Insulation resistance* ; min. 50 MΩ-km at 20°C
- (5)Dielectric strength ; withstand A.C. 10kV for spark test
- (6)Physical Properties ; shown in the Table as below

Condition	Min. elongation	Min. tensile strength
Unaged	300%	13.8 N
Aged : 180°C, 168h	80% of the result with unaged specimens	80% of the result with unaged specimens

* The spark test may be substituted in a production line.

5. Marking

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

[example for 26AWG of single insulation type]

⚡ AWM E41447 STYLE 3633 LF 26AWG 150C 3KVAC VW-1 HITACHI -F- (HITACHI-T)

[example for 26AWG of double insulation type]

⚡ AWM E41447 STYLE 3633 LF 26AWG 150C 3KVAC VW-1 HITACHI -F- — — (HITACHI-T)

[Note ; marking format subject to change without notice.]

6. Packing

6.1 Packing

- (1) Standard length ; shown in the Table 1
- (2) Package style ; coiled into carton box

6.2 Package style

Each package shall be tagged to show the following information with UL stamp.

- | | |
|----------------------|---------------------------|
| (1) UL AWM Style | (8) File No. |
| (2) Conductor size | (9) Rating temperature |
| (3) No. of conductor | (10) Rating voltage |
| (4) Color | (11) Date of manufacture |
| (5) Lot No. | (12) Insulation thickness |
| (6) Length | (13) Name of manufacturer |
| (7) Use | |

7. Recognized data

- (1) UL file No. : E41447
- (2) DENAN-Law approval No. (-F-) : F-HDH1-006, F-HDT1-005

8. Identification for order

[example for 26AWG of single insulation type]

UL3633 1×26AWG(7/0.16)LF

[example for 26AWG of double insulation type]

UL3633 1×26AWG(7/0.16)LF W

Table 1 Construction, dimension and properties of wires
[Single insulation type]

Conductor			Insulation		Conductor resistance at 20°C (max) (Ω /km)	Unit length (m)
AWG size	Stranding (No./mm)	Diam. (mm)	Thick. (nom.) (mm)	Diam. (mm)		
28	7/0.127	0.38	0.34	1.06±0.08	223	610
	19/0.08	0.40	0.34	1.08±0.08	220	610
26	7/0.16	0.48	0.34	1.16±0.08	139	610
	19/0.102	0.50	0.34	1.18±0.08	131	610
24	7/0.203	0.61	0.34	1.29±0.08	85.9	610
	19/0.127	0.64	0.34	1.32±0.08	82.2	610
22	7/0.26	0.78	0.34	1.46±0.08	54.7	610
	19/0.16	0.80	0.34	1.48±0.08	51.2	610

Table 2 Construction, dimension and properties of wires
[Double insulation type]

Conductor			Insulation		Covering		Conductor resistance at 20°C (max) (Ω /km)	Unit length (m)
AWG size	Stranding (No./mm)	Diam. (mm)	Thick. (nom.) (mm)	Diam. (mm)	Thick. (nom.) (mm)	Diam. (mm)		
28	7/0.127	0.38	0.34	1.06	0.15	1.36±0.08	223	610
	19/0.08	0.40	0.34	1.08	0.15	1.38±0.08	220	610
26	7/0.16	0.48	0.34	1.16	0.15	1.46±0.08	139	610
	19/0.102	0.50	0.34	1.18	0.15	1.48±0.08	131	610
24	7/0.203	0.61	0.34	1.29	0.15	1.59±0.08	85.9	610
	19/0.127	0.64	0.34	1.32	0.15	1.62±0.08	82.2	610
22	7/0.26	0.78	0.34	1.46	0.15	1.76±0.08	54.7	610
	19/0.16	0.80	0.34	1.48	0.15	1.78±0.08	51.2	610