

SPECIFICATION

FOR

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

[P/N ; 10267 LF]

Quantity

Your Ref. No.

Our Ref. No.

Signed by *Y. Kunugi*

Yoshiro Kunugi

Manager

Electric Wires & Cables Production Center
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 758 [Latest version]
UL Style 10267
- (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 ; 30~24
- (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 ; 0.43mm(17mils)
min. at any point ; 0.38mm(15mils)

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 ; 0.05mm(2mils)
- (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 ; 105°C
- (2)Rating voltage ; A.C. 2kV
- (3)Flame retardant ; VW-1 (UL), -F-(DENAN-Law)
- (4)Insulation resistance* ; min. 50 MΩ-km at 20°C
- (5)Dielectric strength
 - Method(A) ; withstand A.C. 2kV for 5 minutes in the water
 - Method(B) ; withstand A.C. 4kV for 1 hour
wound for nine turns around a mandrel 3/4 inches dia.
 - Method(C) ; withstand A.C. 3kV for 4 hours in a pipe, 1.5m length
1/2 inches dia. after putting in the water for 1 hour.
- (6)Physical Properties ; shown in the Table as below

Condition	Min. elongation	Min. tensile strength
Unaged	150%	10.3 N
Aged : 136°C, 168h	50% of the result with unaged specimens	70% 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 10267 LF 26AWG 105C VW-1 HITACHI -F-
(HITACHI-T)**

[example for 26AWG of double insulation type]

**Ⓜ AWM E41447 STYLE 10267 LF 26AWG 105C 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]

UL10267 1×26AWG(7/0.16)LF

[example for 26AWG of double insulation type]

UL10267 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)		
30	7/0.102	0.30	0.48	1.26±0.08	354	610
28	7/0.127	0.38	0.48	1.34±0.08	223	610
	19/0.08	0.40	0.48	1.36±0.08	220	610
26	7/0.16	0.48	0.48	1.44±0.08	139	610
	19/0.102	0.50	0.48	1.46±0.08	131	610
24	7/0.203	0.60	0.48	1.56±0.08	85.9	610
	19/0.127	0.64	0.48	1.60±0.08	82.2	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)		
30	7/0.102	0.30	0.48	1.26	0.15	1.56±0.08	354	610
28	7/0.127	0.38	0.48	1.34	0.15	1.64±0.08	223	610
	19/0.08	0.40	0.48	1.36	0.15	1.66±0.08	220	610
26	7/0.16	0.48	0.475	1.43	0.11	1.65±0.08	139	610
	19/0.102	0.50	0.48	1.46	0.15	1.76±0.08	131	610
24	7/0.203	0.60	0.48	1.56	0.15	1.86±0.08	85.9	610
	19/0.127	0.64	0.48	1.60	0.15	1.90±0.08	82.2	610