VIKING®

TECHNICAL DATA

FIRECYCLE® III MULTI-CYCLE DETECTOR CABLE

The Viking Corporation, 210 N Industrial Park Drive, Hastings MI 49058
Telephone: 269-945-9501 Technical Services: 877-384-5464 Fax: 269-818-1680 Email: techsvcs@vikingcorp.com

1. DESCRIPTION

Firecycle® Multi-Cycle Detector Cable consists of 2 number 16 copper conductors with a tinned copper drain wire, Halar insulation, flexible plenum jacket, and aluminum mylar sheath. This FPLP cable is used in the detector circuit for the Viking Firecycle III Multi-Cycle Release Control Panel.

Features:

1. Non-toxic: No toxic or noxious fumes are emitted during a fire.
2. Will not propagate a fire.
3. No conduit is required.
4. Bends easily to match contours for easy installation.
5. Can be cut to length in field.
6. Cable may be spliced, but all splices must be made in the detector box with a porcelain wire nut.

2. LISTINGS AND APPROVALS

cULus Listed (HNIR)

3. TECHNICAL DATA

Specifications:

Conductor: two number 16 AWG solid bare copper with tinned copper drain wire
Impedance: 33 Ohms
Capacitance: 50.3 pF/ft Nom.
Resistance: 4.016 Ohms D.C. per 1,000 ft. (304.8 m) at 68 °F (20 °C)
Weight: 26.6 lb/1000 ft approx. (excluding reel or box)

Materials:

Insulation: Halar, wall thickness 0.007” (0.18 mm)
Jacket: Red, wall thickness 0.010” (.254 mm), SOLEF--nominal outside diameter .15” (3.81 mm)
Sheath: 300 °F (150 °C) overall aluminum polyester foil shield
Color Code: black, red

Ordering Information:

Part Number 16472
Available since 2010.

Viking Technical Data may be found on The Viking Corporation’s Web site at http://www.vikinggroupinc.com. The Web site may include a more recent edition of this Technical Data Page.

4. INSTALLATION

I. General

Note: Prior to installation in ambient air temperature below 40 °F (4 °C), this cable should be climatized at room temperature for 24 hours.

1. Cut cable to proper length. Allow for change in direction, ducts, beams, etc.
2. The detector cable should be supported from structurally sound surfaces with a maximum of 5’-0 ft. (152 cm) between supports to prevent sagging. Cable should be suspended along structural members whenever possible for protection and should never be located in areas where mechanical damage is likely.
3. Remove approximately 6” (150 mm) of the cable jacket, drain wire, and aluminum shield from the end of the detector cable.
4. Remove the detector box cover. Slip cable into brass fitting until sheathing is seated. Tighten brass compression nut until cable will not slip.
5. Strip approximately 1/2” (15 mm) of insulation from the end of each conductor.
6. Connect both conductors of one detector cable to one lead wire of detector using porcelain wire connectors. The two conductors in each cable must be connected to only one detector lead wire. Connect the other detector lead wire to the two outgoing conductors for the next detector in series.
7. Install detector box cover.
8. The detector cable may be spliced. However, the splice must be made using a detector box as noted above in Paragraph 5-G.
9. Install both ends of detector loop in Firecycle® III Multi-Cycle Control Panel. Connect both conductors of one cable to terminal 1 on TB4. Connect both conductors of the other cable to terminal 4 on TB4.

II. Splicing Procedure:

Use detector box assembly (part number 04629A). Plug detector hole with 1/2” (15 mm) metal pipe plug.

1. Remove approximately 6” (150 mm) of the jacket, drain wire, and aluminum shield from the end of the detector cable.
2. Remove detector box cover. Slip cable into brass fitting until sheathing is seated. Tighten brass compression nut until cable will not slip.
3. Strip approximately 1/2” (15 mm) of insulation from end of each conductor.

Revised page replaces page 419a-b, dated February 9, 2007.
(New cable 16472 replaces cable 04632A.)

VIKING®

TECHNICAL DATA

FIRECYCLE® III MULTI-CYCLE DETECTOR CABLE

The Viking Corporation, 210 N Industrial Park Drive, Hastings MI 49058
Telephone: 269-945-9501 Technical Services: 877-384-5464 Fax: 269-818-1680 Email: techsvcs@vikingcorp.com

4. When both cables are securely fastened, connect all four conductor cables together using a single porcelain wire connector.
5. Assemble cover to box. Insert 1/2" (15 mm) iron or steel pipe plug in detector hole.

III. Splicing Procedure for Firecycle® III-OH Multi-Cycle Systems:

A. To splice Detector/PLFA-FPL Cable:

1. A junction box is required. Use either option a or b below.
   a. For Model B Detector use a detector box assembly (part number 04629A) with a ½" (15 mm) metal pipe plug (not included) installed in the ½" (15 mm) NPT threaded detector probe connection or,
   b. A steel electrical junction box with ½" (15 mm) NPT connections.
   c. For Model C-OH Systems install a standard octagonal approved electrical box and conduit.
2. Porcelain wire connectors are required. Use Viking part number 04631A.

NOTE: DETECTOR/PLFA-FPL CABLE MUST BE INSTALLED IN STEEL CONDUIT THREADED INTO THE ½" NPT CONNECTIONS OF THE JUNCTION BOX USED.

3. With the cover removed from junction box used, pull the ends of the two Detector/PLFA-FPL Cables to be spliced, into the open junction box.
4. Slit and strip away enough cable jacket and aluminum shield (if present) to expose conductors.
5. Clip and remove drain wire (if present).
6. Strip approximately ½" (13 mm) of insulation from the ends of each conductor.
7. For Model B Detector, use the porcelain wire connectors to connect the wire leads of the detector probe to the cable conductors as shown in Figure A and described in steps "a" through "d" below.
   a. Twist the pair of cable wires entering the junction box together with one of the wire leads from the detector probe.
   b. Secure the twisted wire connection by installing a porcelain wire connector.
   c. Twist the pair of cable wires exiting the junction box together with the remaining (unused) wire lead from the detector probe.
   d. Secure the twisted wire connection by installing a porcelain wire connector.
8. For Model C-OH Detector, attach cable ends to screw terminals furnished in detector.
9. Install the junction box cover, tightening all cover screws.
10. Verify that the detection circuit complies with 4. INSTALLATION paragraph 9 above.

B. To Splice Detector/PLFA-FPL Cable to existing aluminum sheathed Detector/PLFA-FPL Cable:

1. A detector box is required. Use either option a or b below.
   a. Use a detector box assembly (part number 04629A) with a ½" (15 mm) metal pipe plug (not included) installed in the ½" (15 mm) NPT threaded detector probe connection or,
   b. Make the connection inside the detector box.
2. Porcelain wire connectors are required. Use Viking part number 04631A (two are included with Model B Detectors or may be ordered separately).
3. Refer to instructions provided in this technical data for splicing Detector/PLFA-FPL Cable and/ or making connections to a detector probe.
4. Refer to instructions provided on Viking technical data describing aluminum sheathed cable to connect cable to detector box assembly and/or detector probe.
5. Install the detector box cover and tighten all cover screws.
6. Verify that the detection circuit complies with the General Installation paragraph of section 4.

5. OPERATION

Refer to the associated Firecycle Multi-Cycle System Data Pages.

6. INSPECTIONS, TESTS, AND MAINTENANCE

No maintenance is required except for annual testing of entire circuit in accordance with manufacturers instructions and NFPA 72.

7. AVAILABILITY AND SERVICE

The Firecycle® Multi-Cycle Detector Cable is available through a network of domestic and international distributors. See the Viking Web site for the closest distributor or contact The Viking Corporation directly.

8. GUARANTEES

For details of warranty, refer to Viking's current list price schedule or contact Viking directly.